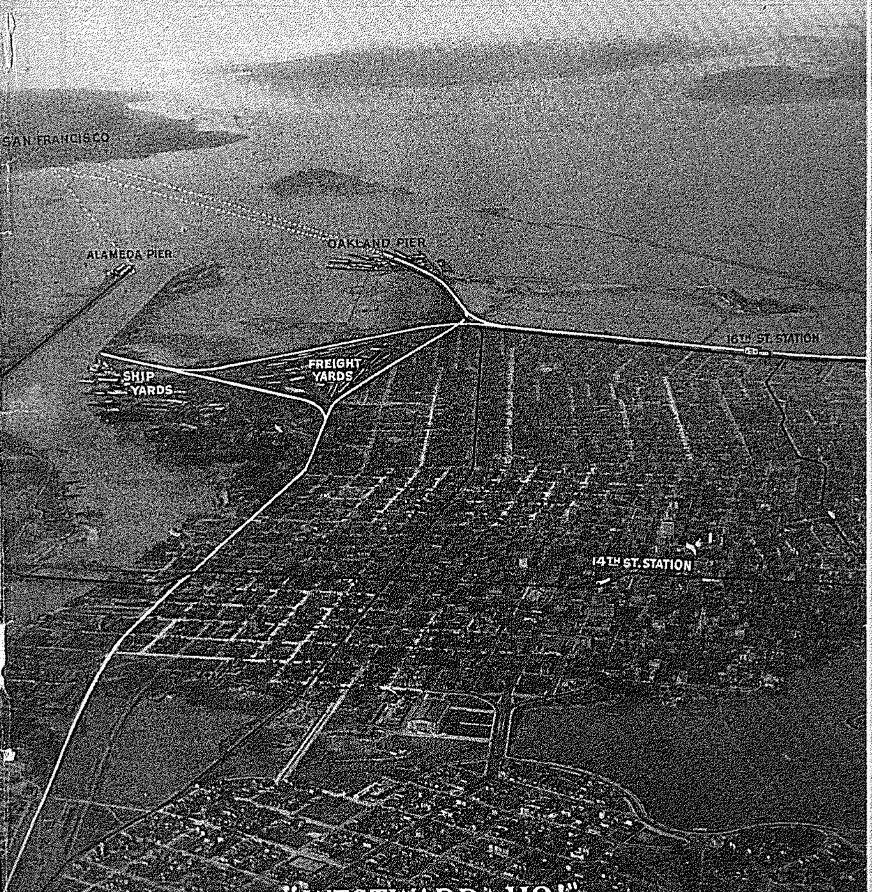
Southern Pacific Bulletin

OCTOBER 1920



"WESTWARD" HO!"
(SEE PAGE 3)

WHAT INCREASED FREIGHT RATES MEAN

THE NEW RATES ADD TO COST OF COMMODITIES AS FOLLOWS:

A Pound of beans Lompoc, Cal. to San Francisco, Cal.
1/10¢

A Pound of potatoes Sacramento, Cal. to Reno, Nev.
1/10¢

A Pound of rice Gridley, Cal. to Ogden, Utah
1/6¢

A Pound of raisins Fresno, Cal. to Portland, Ore.
1/8¢

A Can of peaches Los Angeles, Cal. to Tucson, Ariz.
3/5¢

A Pound of sugar Crockett, Cal. to Deming, N.M.
1/5¢

THESE EXAMPLES INDICATE HOW THE NEW RATES SHOULD AFFECT YOUR COMMUNITY

The Bulletin

THE BULLETIN IS PUBLISHED MONTHLY IN THE INTEREST OF AND DISTRIBUTED FREE TO THE EMPLOYEES OF THE SOUTHERN PACIFIC COMPANY. CONTRIBUTIONS ARE INVITED AND SHOULD BE ADDRESSED TO THE EDITOR, BUREAU OF NEWS, 65 MARKET STREET, SAN FRANCISCO, CALIFORNIA.

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The Importance Of The Western Division

The part played by that section of the Southern Pacific's system which unites rail and water on the continent's edge

By T. F. ROWLANDS, Superintendent of the Western Division

T. F. Rowlands, Superintendent of the Western Division.

WESTWARD the Star of Empire takes its Course" and westward across America the traveler moves until he comes to the Western Division which drains Central California and extends a long arm of steel toward San Francisco and the Golden Gate.

The Western Division, starting at Oakland Pier also includes part of the Ferry Building, San Francisco, and ending in one direction at Sacramento, where it connects with the Sacramento Division; in another direction at Tracy, where it connects with the Stockton Division, and at San Jose and Redwood City, where it connects with the Coast Division, is by virtue of its location and diversified transportation problems, characterized and will forever remain one of the most important divisions of the Southern Pacific Lines, Pacific System.

Commodious ferryboats, the largest in the world, ply between San Francisco and Oakland Pier at twenty-minute intervals, making connections with overland and local main line trains, and forming an important feature of the vast suburban traffic that moves between the east and west-bay districts.

The record number of passengers carried over this route in a twenty-four-hour period is 195,000.

The delightful eighteen-minute trip across the bay with its invigorating ocean breeze is a welcome climax to a cross-continent journey.

At Oakland Pier Terminal in a twenty-four-hour period there are handled at present 763 main line and suburban passenger trains, and 56,000 passengers. In addition, there passes through this terminal every day 3500 pieces of baggage, 7000 pieces of mail and 100,000 pieces of express matter.

This projection of land, extending into the bay for a distance of 1.13 miles, is all made ground. By laymen it is usually referred to as "Oakland Mole," the correct name being Oakland Pier.

Material for the original construction was hauled in by trainload and dumped. That used for subsequent additions was taken from the bay by suction dredge.

There are five double-track lines located on what is termed the fill proper, this being that portion extending from the throat of the layout to the mainland. Beginning at the north side, the first pair accommodates steam traffic via Oakland (Sixteenth Street), the second Berkeley suburban lines, the third suburban line via Oakland (Seventh Street), the fourth steam trains via Niles and Newark line, while the fifth is used for yard engine movements between the pier and West Oakland yard.

WESTWARD HO!

The interesting frontispiece in this issue depicts the continental side of San Francisco Bay as seen from an airplane from an altitude of 2500 feet. The city of Oakland is shown in the foreground with the Southern Pacific main line tracks indicated by white lines and the electric service by dark lines. The view gives an admirable picture of the terminal facilities of the Western Division and their relation to San Francisco and the Golden Gate, which can be seen in the distance.

During the period of Federal control the Santa Fe passenger trains were operated in and out of Oakland Pier via Santa Fe Junction, a distance of 10.6 miles, and their equipment, both cars and locomotives, were taken care of in our West Oakland yard. This arrangement is still in effect and places quite an additional burden and taxes the capacity of our Oakland Pier terminal as well as our West Oakland roundhouse and passenger yards.

Route No. 2, Berkeley Suburban, is elevated at Sixteenth Street, Oakland, for a distance of 3400 feet and carries traffic to the upper story of a modern station building located at that point, separating suburban and main line travel. The elevated also serves to carry all electric traffic safely over the freight line where traffic is particularly dense.

In addition to the five double track lines just mentioned, there are thirty other tracks in the Oakland Pier terminal layout used for incoming and outgoing main line and suburban trains, storage of cars for both classes of service, an outlet track for incoming locomotives, industry tracks, and one assigned for traffic between the freight slip and West Oakland Yard.

The Interlocking plant is equipped with one 155-lever "Union Switch and Signal Company" electric pneumatic machine, in charge of a supervising towerman, two chief towermen and six levermen. Three men are on duty from 6 a. m. to 10 p. m. and two men from 10 p. m. to 6 a. m. On August 26 a total of 2177 switching movements were made by this plant, a record equalled by few similarly located layouts in the United States.

Also located at Oakland Pier is the Southern Pacific Wharf, so construct-

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ed as to accommodate 24 deep water vessels at one time. An enormous tonnage of a diversified character is handled here.

It is expected that a large number of important industries will locate at this point in the near future.

Tracks 1 and 2 and 7 and 8 constitute the two arteries through which the major portion of the tremendous traffic handled by this division passes.

At the right upon reaching the mainland is the Niles route, which continues on to Tracy, with a diverging line from Elmhurst through Newark to Santa Clara and San Jose, this being in part the old South Pacific Coast Railway which was once of narrow gauge construction, and owned by the late Senator James G. Fair, being operated from Alameda Pier to Santa Cruz.

When this property passed into the hands of the Southern Pacific Company and the gauge standardized, that part of the line from High Street, Alameda, to Mile Post 14, located in close proximity to Mulford Station, was abandoned, and a line which had been constructed from Elmhurst to Mile Post 14, to conform with the change in gauge, was substituted, thereby eliminating Alameda Pier as a terminal for other than suburban traffic, and Alameda point as a freight terminal. This change diverted all passenger traffic to and from this line through Oakland Pier terminal and the freight through West Oakland.

Two additional diverging lines from the Niles route occur at Niles, one designated as the San Jose Branch, which passes through Irvington and Milpitas, the other being the famous "Dumbarton Cutoff." Over the cutoff is routed all freight traffic originating at and destined to points on the Coast Division, including San Francisco, excepting, of course, that small portion which is ferried across the bay between Mission Bay, Drum Street, and Oakland Pier slip, by the steamer "Transit."

The territory lying between San Leandro and Wayne and between Niles and Centerville is given over principally to fruits and vegetables and is highly productive.

Leaving Niles, the line wends its way through beautiful Niles Canyon and the Livermore Valley over the Altamont Pass, into Tracy. Altamont (704.3 feet) is the highest point on the Western Division, while the elevation at Oakland Pier is 13.6 feet. The ruling grade over the Altamont hill is one per cent, not compensated for curvature.

Freight Terminal.

Our West Oakland freight terminal is one of the largest and most important located on the Southern Pacific Lines. Here 25 engines are operated during the day and 29 engines at night, with 242 yardmen and 108 yard enginemen. Of the engines in use, 42 are engaged in purely intra-yard switching while 12 are assigned to outside service between Elmhurst and San Pablo, serving 218 industries, and caring for four interchange points, one each with the Western Pacific, Santa Fe, San Francisco-Oakland Terminal Railways, and Richmond Belt Line. While not handling perhaps as great a number of cars per day as one or two other yards on the system, the complexities of operation are greater. The record of cars handled during August, 1920, shows 53,000 freight and 24,000 passenger.

It is here that all passenger equipment is cleaned, running repairs made and equipment made up into trains. Here also are located our repair shops, car (excluding electric), locomotive, signal and train lighting plants. We also find here the Commissary and Store Departments, the Pintsch Gas Plant, the Marine Ways and a thoroughly equipped laundry. In the aggregate a small army of men and women are employed.

Branching out to the left from the mainland, the line stretches to Richmond. Upon the site of this prosperous city there stood twenty years ago a grain field, but with the advent of the San Joaquin Valley Railroad, later absorbed by the Santa Fe Company, and the location there of the Standard Oil Refinery, the city arose with substantial growth.

Just west of Richmond is the Pullman Company's repair plant where all of that company's Western equipment is rehabilitated. An average of seventy cars pass through these shops monthly.

At San Pablo, a branch line 2.6 miles in length establishes a connection with the Richmond Belt Line, which owns the property operated from the junction with this and the Santa Fe Company, extending beyond the Standard Oil Refinery and manufacturing plant to Point San Pablo. This line is operated jointly by the Southern Pacific and Santa Fe Companies.

At Giant is located the Giant Powder Company plant, and a few miles further along, at Hercules, is the Hercules Powder Plant, this being a DuPont DeNemours property. As we proceed further we find the Union Oil Company's plant at Oleum, the Selby smelter at Selby and the California-Hawaiian sugar refinery at Crockett. Sugar routed via the Southern Pacific Lines is loaded directly into cars at the sugar warehouse. A corps of competent car men are retained by the Southern Pacific Company at the refinery to thoroughly inspect and put in proper condition such equipment as is used in the transportation of this important commodity.

Next, but by no means least in importance, we reach Port Costa, where local trains performing service between San Pablo and Nichols and Sacramento and Benicia are made up and disconnected.

This yard enjoys the unique distinction of being one of the longest and unquestionably the narrowest yards located on Southern Pacific Lines. It is five miles in length and ranges from 50 to 200 feet in width. The hills on one side and the Straits of Carquinez on the other account for the formation.

The "Water Trains."

Between Port Costa and Benicia ply the steamers "Solano" and "Contra Costa," transporting across the Straits of Carquinez, a distance of 1.3 miles, all of the passenger traffic routed through the Ogden and Portland gateways, and intermediate points, plus such freight as can be accommodated.

At this writing the "Solano" is undergoing repairs, so the service other than passenger is necessarily confined to ferrying fruit, stock and merchandise, and such local cars as the "Contra Costa" is able to take care of without jeopardizing passenger train schedules.

The difficulties of operation at this point have been aggravated from a singular cause which illustrates the variety of problems that face the railroad engineer. Scarcity of snow in the distant Sierras has lowered the fresh water in the rivers to the point where the salt water of the bay has backed up and enabled the teredo, a salt water pest, to almost destroy the company's new slip on the Port Costa side.

The wharves will be reconstructed at a different locality which will permit of improved operation and overcome in a measure adverse tide conditions.

The "Solano" is 420 feet 9 inches in length, and the "Contra Costa" 433 feet 4 inches in length and they will accommodate 18 passenger cars and two locomotives or 32 freight cars and two locomotives as a maximum load.

Eastward, from Benicia to Sacramento and diverging routes at Suisun-Fairfield and Elmira, we encounter what has always been known to the fraternity as the "CalP" (California Pacific) and branches. Between Benicia and Suisun-Fairfield there is a stretch of seven miles of railroad which years ago presented a serious problem because of treacherous roadbed.

Many extraordinary stories are related by veterans of the "sinks" in this region which during the construction of the line and for years afterwards worried the engineers. Over eight thousand carloads of material were dumped into three sinks in particular near Cygnus, and with the application of the Brennan antidote the trouble subsided and the roadbed for seven years has given no trouble.

At Suisun-Fairfield we find the artery which leads over the Creston hill to Napa Junction, the ruling grade being 1.8 per cent. Here two more diverging lines reach out, viz., the Napa and Santa Rosa Branches. Proceeding toward Calistoga, we pass the Napa State Hospital at Imola, and the Veterans' Home at Yountville. After leaving Union, we pass almost one continuous vineyard to Calistoga. The Napa Valley in its autumnal dress is a marvel of tone color.

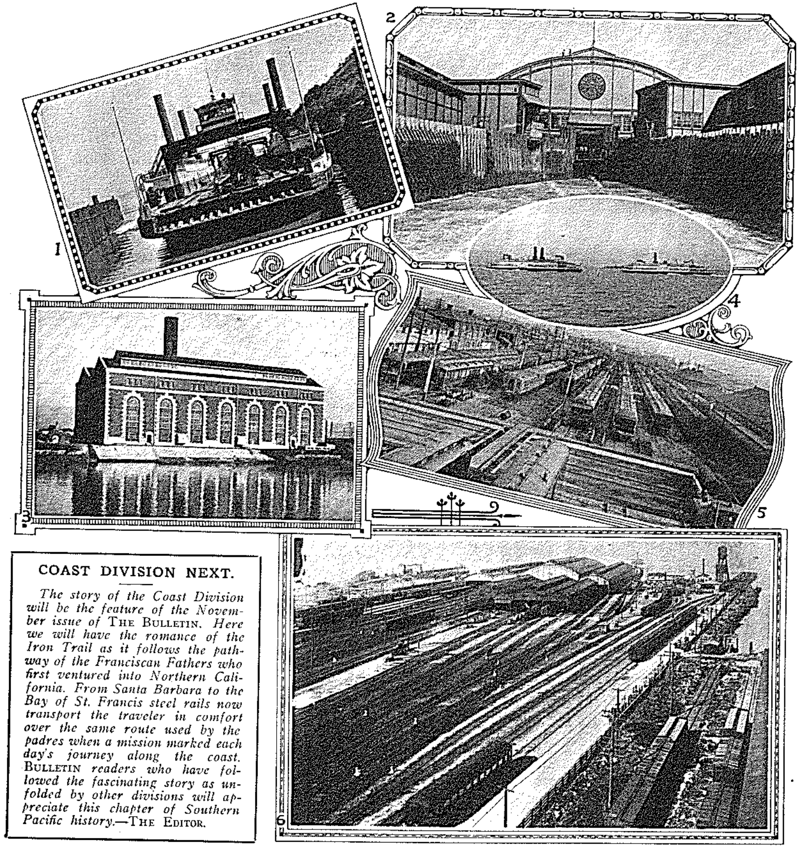
This year grapes will be crushed for wine making for sacramental and medicinal purposes, for the manufac-

(Continued on page 6)

Where Rail and Water Travel Unite

COAST DIVISION NEXT.

The story of the Coast Division will be the feature of the November issue of THE BULLETIN. *Here we will have the romance of the Iron Trail as it follows the pathway of the Franciscan Fathers who first ventured into Northern California. From Santa Barbara to the Bay of St. Francis steel rails now transport the traveler in comfort over the same route used by the padres when a mission marked each day's journey along the coast.* BULLETIN *readers who have followed the fascinating story as unfolded by other divisions will appreciate this chapter of Southern Pacific history.*—THE EDITOR.



1—The ferryboat Contra Costa in slip at Port Costa. 2—Oakland Mole slip and insert of two Southern Pacific ferryboats. 3—Southern Pacific power house, Fruitvale. 4—Southern Pacific passenger car yards at West Oakland. 5—Birdseye view of Oakland Mole.

(Continued from page 4)

ture of grape juice, and a larger proportion of the crop will be shipped to Eastern points. Grape growers are receiving $95 to $100 per ton for their product, while before prohibtion prevailed $15 per ton was considered a good price.

On the Santa Rosa Branch, we pass Fetters, Augua Caliente, Boyes Springs and other attractive summer resorts, and on through the Valley of the Moon, to Glen Ellen, the former home of Jack London, the novelist. At Eldridge is located the home for the feeble minded. At this point the stations of the Northwestern Pacific and Southern Pacific are in close proximity.

At Napa Junction an interchange facility has been constructed and was placed in operation on the 20th inst., where we interchange with the S. F. N. & C. electric road. All freight to and from Mare Island was formerly taken to Richmond, loaded upon barges and by this means transported to the island. All this business will revert to the new route, dispensing, it is hoped, with barge service.

The electric company has just completed the electrification of the newly constructed Government Causeway from the mainland to the island.

At Shellville and Santa Rosa an interchange with the Northwestern Pacific Company is effected, involving the delivery of from 100 to 150 cars daily.

The Clear Lake Branch, running from Elmira to Rumsey gives us green and dried fruit in large quantities, also producing wheat, barley, rice and tobacco. Fifteen hundred and twenty-three cars of green fruit originated on this branch in the year 1917.

Davis is a very important junction point, where we connect with the Sacramento Division, and through which has passed daily for the past thirty days 40 to 60 cars of peaches destined to different canneries located about the bay.

The line over the Yolo Basin, located between Webster and Sacramento, was before its reconstruction a source of a great deal of trouble and annoyance. At every unusual fall of rain this line would wash out, with consequent diversion of all traffic via the Martinez-Stockton route.

During the year 1912 this part of the line was raised nine feet, a sufficient height above all high water marks to preclude further trouble.

On account of the variety of routes we can usually keep traffic moving when for the reason of a derailment or other trouble one particular route has become inoperative.

On the Port Costa-Tracy route are located many huge industries from which the company enjoys heavy patronage.

Our Electric System.

The suburban system, correctly described as the Oakland, Alameda and Berkeley Electric Lines, moves 1217 trains in a 24-hour period. Of these 694 pass through the Oakland Pier Terminal, the remainder moving through Alameda Pier terminal and crossing Harrison Street bridge, transporting a total of 2,596,262 passengers monthly. The equipment, which is of steel construction, comprises 50 motor cars, 29 combination baggage and smokers, 60 trail cars and 12 street cars.

A train of cars will accelerate from 0 to 40 miles per hour in 10 to 15 seconds. Motormen employed on the electric lines and conductors in similar service are taken from the engineers' and conductors' lists of the Western Division, and both classes of employees must submit to special examinations and only such as qualify are used to operate the electric trains.

An important adjunct to the electric lines is the street car service operated between Oakland (Sixteenth Street) and Alameda. The repair shops of the O. A. & B. lines are located at West Alameda.

The mileage of the Western Division before its dismemberment and the formation of the Stockton Division, was 876.6 miles, including the O. A. & B. lines. The present mileage of the Western Division main line is 264.84 miles, of which the branches form 189.04 miles and the O. A. & B. lines 51.37. Main line and suburban combined have 133.67 miles of double track.

Some of the conditions which obtain and conspire against higher attainment in tonnage rating and locomotive efficiency are the large number of local trains operated six days per week and upon which full rating cannot be handled without releasing crews in conformity with the Hours of Service regulations, and consequent excessive overtime. When you relieve a local crew on this division on this account there is failure in the advertised L. C. L. delivery, which is load today and deliver tomorrow.

Having no through trains except two or three via the Dumbarton Line, others in order to handle the merchandise and other highly important freight in connection with our other branch points, "set out" and "pick up" at such places when the "set out" exceeds "pick up" and a train runs over a portion of the district with a part load, the result is obvious. On many local trains we get 27 to 67 miles per day, on locomotives assigned, with no opportunity of increasing their mileage.

Some comparisons in local freight train service for the present year with that of the year 1898 are interesting. On the Oakland to Sacramento lines at that time two crews did all the work beginning at Oakland, Sixteenth Street. Four trains and thirteen yard crews now form the assignment. Included herein are two crews which do the work between San Pablo and Port Costa, fourteen and one-half miles, taking 9 to 13 hours. Two crews were assigned Oakland and Tracy via the Martinez route, while now six are required between Tracy and Port Costa, 27 miles less. The service between Oakland and Livermore, Oakland and San Jose, was taken care of by two crews on a turnaround. Now five crews with a yard engine at Niles are required. The service between Tracy and Livermore was weekly, with no through freight trains operating between Niles and Tracy.

The total number of men employed by the Western Division on August, 1920, was 6637. Total payroll for the month of August, $1,085,263.32.

Before closing, I desire to direct again the attention of all Western Division employees to the circular letter issued by President Sproule under date of September 1, and addressed to officers and employees.

Go through it carefully, paragraph by paragraph, then read it again, and when you come back tomorrow, give it a third reading, so that its contents and import may be indelibly registered upon your mind.

All who are engaged in passenger train operation, and this includes almost everyone in service, should so interest themselves that on-time passenger train service will obtain. The public judges a company by the character of the service rendered by the employees, so let all of us work with the vim and will necessary to bring about unusual results, because these are unusual times.

As additional facilities cannot now be furnished, we should work so energetically as to greatly increase the effectiveness of the facilities in our possession. Southern Pacific Standard is rightfully a high one. By concerted action we can achieve desired ideals.

NO CARS FOR GEN. COXEY.

Twenty-six years ago Jacob S. Coxey went to Washington at the head of a band of ragamuffins to implore Congress to put out some kind of money so as to get road building and other public improvements started. There were hundreds of thousands of empty cars. Coxey wanted the Government to do something that would put something into the cars other than soldiers of the Coxey army. A few days ago Coxey made another pilgrimage to Washington. But what a difference there was in the objects of his two missions! He came this time to plead for the use of cars. He went to Colonel Franklin S. Robbins, director of car service; to Robert Emmet Quirk, the assistant director; to E. H. DeGroot, another assistant director, and possibly to Commissioner Aitchison's office in search of cars. He has molding and other kinds of sand to sell, but if he cannot obtain cars, he is just as bad off as he was a quarter of a century ago when he was pleading for the issuance of bonds or other evidences of indebtedness, if it was not paper money, so that somebody might begin using sand for road and house building. There is only one point of resemblance in the two trips. Coxey got nothing either time.

$75,000 A Day Up In Smoke

In July the fuel bill represented one-sixth of the cost of operation

By R. J. CLANCY, Assistant to the General Manager

As a result of soaring prices for fuel oil and heavy consumption during the last week in August, the company's revenue went out through the smokestacks on the Pacific System at the rate of $75,000 a day.

This spread over a period of a year means an annual expenditure for fuel alone of well over $27,000,000.

For the month of July, 1920, as shown by Form 522, the cost of fuel was 39.5 per cent of the cost of freight train service, and the cost of fuel consumed for all purposes amounted to one-sixth of the total cost of operation. The quantity of fuel oil consumed daily for all purposes now averages around 44,000 barrels.

Every officer and employee having to do with operation as related to fuel will no doubt recognize in this the necessity for preventing waste and conserving fuel to the greatest possible extent.

With the price of fuel oil increasing, supplies decreasing and consumption exceeding production, the elimination of waste and the conservation of fuel becomes a subject of the highest importance.

Nothing is better calculated to save fuel than giving a locomotive its rated tonnage, for performance sheets invariably show a rise in fuel consumed per gross ton-mile proportionate to the fall in locomotive load; keeping up the power, keeping it free from scale and from air and steam leaks, seeing to it that valves are kept in proper adjustment, oil properly heated, engines prevented from popping off, care in fueling engines so as to prevent overflow or excessive dripping, operation of reverse lever, firing and blower valves, so as to prevent waste and obtain the greatest possible efficiency—these are some of the essentials for fuel conservation.

Carrying water at too high a level in the boiler, especially in respect to superheaters, interferes with steaming qualities and occasions wastage of fuel. There are occasions when drifting may be done to good advantage, using the momentum of train where grade is favorable or where speed is to be reduced or stop made.

Trainmen should and no doubt do realize that it requires an extra amount of fuel to start a train and get under headway, and should therefore be on the alert in heading in and out of sidings and avoid all unnecessary stops.

By planning their meets and waits with the idea uppermost of keeping trains moving, by keeping yardmasters and roundhouse foremen fully advised of the prospective arrival of trains, dispatchers can greatly assist in the prevention of fuel wastage. It is very essential that the roundhouse foreman shall be kept advised of delayed trains so that he may know when to call crew and fire up engine and avoid the loss that would otherwise result.

Thorough inspection of equipment by carmen in the yard and by trainmen on the road is equally important. Particular attention should be given to air leaks and brake adjustments so as to avoid brakes dragging against wheels and safeguard against break-in-twos and derailments. It requires just as much fuel to pull a hundred tons of brake retardation or resistance caused by brakes dragging against wheels as a hundred tons of freight, and in the former instance it is sheer waste.

Superintendents should see to it that their supervising forces, particularly road foremen, give effective attention to the manner in which firing is being done, especially by young runners and new firemen in the operation of superheated engines. Performance sheets show wide variation in efficiency between engineers and between firemen in the same superheater pool with the same class of engines, indicating lack of knowledge in this respect on the part of those whose performance shows excessive consumption of fuel. These variations range as high as 43 per cent between engineers and 40 per cent between firemen.

While engineers and firemen can do much to prevent waste and obtain efficiency they cannot do it alone, nor are they responsible for all the failures. Some responsibility attaches to the road foreman, master mechanic, trainmen and in some degree to the dispatcher.

For example, one-eighth of an inch does not mean much in the elevation of a grade or radius of a curve, but that much scale on the flues of a locomotive will necessitate the use of considerably more fuel to attain the same degree of thermal efficiency as when flues are free from scale, and this waste increases with an increase in the thickness and compactness of scale regardless of the best efforts of the enginemen.

In short, fuel efficiency is not a one-man proposition, but involves and concerns every one whose duties are directly or indirectly related to it. Most of all it involves and requires intensive and intelligent supervision, proper draughting and upkeep of power, keeping cab and fixtures clean, diligence on the part of trainmen, efficient dispatching, and the instruction and supervision of enginemen in the firing and operation of the various classes of power, with particular regard for superheated locomotives.

Viewed from every aspect fuel conservation is the biggest economic problem in railway operation, is daily growing more serious, and every effort should be made in road and yard service to prevent waste and obtain the highest possible degree of efficiency. It is essential in large terminals where many switch engines are regularly worked and where much road power is turned—such as San Francisco, Los Angeles, Oakland and Roseville—that supervision be constant and thorough, for nowhere is the opportunity for saving greater, or waste more difficult to restrain.

THE RAILROAD BEATITUDES.

Blessed is the shipper that loadeth his cars full, for he shall merit preferred treatment.

Blessed is the man that giveth a full day's work for his increased pay, for he shall be friends with his conscience.

Blessed is the yardmaster that keepeth his tracks clear, for he shall have surcease of trouble.

Blessed is the man that helpeth to move freight cars thirty miles a day, for he shall be called a public benefactor.

Blessed is the agent that secureth an average loading of thirty tons a car, for he shall find favor at headquarters.

Blessed are they that bring about the return of cars to their home roads, for they shall be blessed by the owners.

Blessed is the company that reduceth the number of its bad-order cars, for its stockholders shall rejoice and be exceedingly glad.

Blessed is the executive that hath a loyal staff, for he shall get results.

Blessed is the state commissioner that recognizeth the powers of the I. C. C., for he shall be called a wise man.

Blessed is the citizen that useth judgment in travel, for he shall have a lower berth.—Railway Review.

CAR SITUATION CONTINUES TO IMPROVE.

According to reports compiled by the Car Service Commission, the railroads loaded more cars with commercial freight during the week ended August 24 than have been loaded in any other week of this year.

During the week ended August 14, 962,352 cars were loaded, as compared with 832,439 cars during the corresponding week of 1919, and 948,796 cars in the corresponding week of 1918.

Car congestion continues to decrease, the accumulation for the week ending August 20 amounting to 94.945 cars as against 79,213 cars for the previous week.

PRICES AND FREIGHT RATES.

It will take fewer pounds of cotton to pay the freight on a bale of cotton, fewer pounds of beef to pay the freight on a carload of live cattle, fewer pounds of sugar to pay the freight on a barrel of sugar, and fewer bushels of wheat to pay the freight on a carload of wheat after the recently advanced freight rates become effective than it took in October, 1916, according to a comparison of rates and prices issued by the Southern Railway System. The prices for October, 1916, are taken from the July issue of the "Commerce Monthly" published by the National Bank of Commerce of New York, and the rates quoted are between representative points in the South between which there is an actual movement of the commodities named.

In October, 1916, when middling cotton was selling on the New Orleans market at 16.81 cents per pound, the freight rate from Selma, Ala., to New Orleans was 45 cents per hundred pounds or $2.25, the equivalent of 13.4 pounds of cotton, for a 500 pound bale. The new freight rate from Selma to New Orleans will be 75 cents per hundred pounds or $3.75 for a 500 pound bale but with cotton of the same grade selling for 35.25 cents per pound it will take only 10.6 pounds to pay the freight on the bale.

In October, 1916, the rate on live cattle from Meridian, Miss., to East St. Louis was $72.00 per car of 20,000 pounds and choice steers were selling at $9.80 per hundred pounds requiring 734 pounds to pay the freight on a car; the new rate will be $109.00 per car but with choice steers selling at $15.90 per hundred pounds it will require only 685 pounds to pay the freight on a carload.

In October, 1916, when sugar was selling at 6.15 cents per pound, the freight rate from Savannah to Chattanooga per 100 pounds was 28 cents, the equivalent of 4.55 pounds of sugar. The new rate from Savannah to Chattanooga will be 44 cents but with sugar selling at 19.56 cents per pound, it will require only 2.25 pounds to pay the freight on 100 pounds.

In October, 1916, wheat, No. 2 red winter, sold for $1.57½ per bushel and the freight rate from Morristown, Tenn., to Dalton, Ga., was 13.5 cents per hundred pounds, making the freight charge for a car of 60,000 pounds or 1,000 bushels $81.00, the equivalent of 5.14 bushels of wheat. The new rate will be 21.5 cents per 100 pounds or for a car of 60,000 pounds or 1,000 bushels, $109.00, the equivalent of 50.8 bushels of wheat of the same grade at $2.54 per bushel.—Traffic World.

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Ten million bushels of wheat is the estimate from California this year. Oats, barley and hay also promise well.

Chairman Notes Progress

Mr. J. Kruttschnitt discusses situation and plans of Southern Pacific

Mr. J. Kruttschnitt, chairman of the executive committee, Southern Pacific Company, recently completed a trip of inspection over the Pacific System. Just before his return to New York, Mr. Kruttschnitt, in an interview with a representative of the Coast Banker in San Francisco, said:

"I find our lines west of El Paso in quite satisfactory condition, reflecting a considerable improvement since my last trip over them some four months ago. Those east of El Paso, under a separate Federal jurisdiction, were badly run down when returned to us. It has been particularly gratifying to note the effective team work of officers and employees generally demonstrated both in the spirit which I have personally noticed the work is being done and in the results obtained, a maximum performance in train loading and car loading and in the safe and prompt transportation of freight and passengers having been accomplished in the last four months. During the period of the Shriners' convention at Portland and the Democratic national convention at San Francisco these two meetings involving simultaneous movement of passengers, a very thorough and highly satisfactory test of the company's ability to move a very large number of people long distances at one time was given.

"Our plans for the future are along lines of progress with the intent of bettering both freight and passenger service. The specific changes will be announced from time to time as plans are perfected. Our period of partnership with the Government ceased only on September 1st, the guarantee of earnings by the Government to the railways extending from the end of Federal control, March 1st last, to September 1st.

"The company has completed such financing as is necessary at this time. A great need, of course, was for more equipment, since during the war period very much less than that necessary to meet the normal growth of the country was constructed and the necessity of providing equipment has fallen very largely upon the roads financially able to carry the burden.

"The Southern Pacific Company has sold $15,000,000 worth of trust equipment notes, being two-thirds of the value of the estimated cost of equipment totaling $22,500,000. The Pacific Fruit Express Company, of which it is one-half owner, the Union Pacific owning the other half, has sold notes in connection with the construction of 4000 refrigerator cars costing in round figures $16,000,000.

"The Southern Pacific equipment ordered includes 70 locomotives, 5400 freight cars, 50 steel passenger cars and 140 electric cars. Perhaps the number of freight cars can be visualized when it is stated that they would make up one train over forty miles long. Much of this equipment is being built at our shops at Houston, Sacramento and Los Angeles, and many of the refrigerator cars are to be built in the Pacific Fruit Express shops at Roseville and Colton.

"The additions and betterments to our properties include the replacing by 90-pound rails on our main line of rails of lighter weight; extensive ballasting; the use of our new standard ties, 7x10x8, in place of smaller ties; the addition of long sidings over the Siskiyous and the Sierra Nevada to facilitate train movements; the creation of larger terminal facilities wherever needed, including shop additions, new roundhouses, etc. No new financing is contemplated in connection with this work at this time.

"At the very best it will be some time before all the new equipment ordered can be placed in service. In this connection I would like to urge upon all concerned with the movement of freight the great desirability of loading cars to the maximum and promptness in loading and unloading. For our part we will do all we can to get them over the road quickly. Good teamwork along this line would provide the equivalent of at least 200,000 cars to the country's supply. May I further suggest that it is directly in the public interest that this effort be sustained unabated at all times in order to avoid making unnecessary investments in equipment. The shippers have to carry the burden through increased freight rates necessary to give return thereon prescribed under the Railway Transportation Act of 1920."

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CHARGE OF THEFT WAS A MISTAKE.

A purse containing more than $100 in cash and checks was left in a store recently near the Third Street station in San Francisco by a Southern Pacific traveler. He reported that pickpockets had robbed him while he was in the waiting room. When questioned by Special Agent Loftus he became very indignant and insisted that he had been robbed in the station. Upon investigation and with no help from the owner, Loftus located the missing property in the store where the man had made a purchase before going to the station. Patience on the part of the special agent not only resulted in the owner catching his train but prevented him from spreading false charges.

KEEP EVERY CAR MOVING.

In making a trip of inspection over his lines recently, the president of a large railroad chanced to notice a car standing at the end of the track which showed evidence of having been there for some time. On questioning the division officer he was informed that the car in question had been placed there only recently. Later investigations showed that it had been standing for ten days, although the purpose for which it was set could have been accomplished in a day. This incident is not cited to imply that the superintendent should have known how long this car or any other individual car had been standing at any one place on his division, but rather that he should have known that no serviceable car was standing at any point on his division longer than was necessary to accomplish the purpose for which it was placed. The problem of car movement is that of keeping every car moving. It involves close supervision at each siding and station on the division. It is self-evident that if all unnecessary delays to each car are eliminated and it is kept moving to the maximum practicable extent, the maximum mileage will be secured from all cars and the problem of handling the traffic of the country will have been solved insofar as it is posisble to solve it with the equipment now available.—Railway Age.

PRAISE FOR OUR PENSION SYSTEM.

The pension system of the Southern Pacific is a mighty fine arrangement. There is real merit in a system by which faithful, loyal workmen are placed on "easy street" financially when something occurs to prevent their continuing in the service. In a larger sense it may be only just recompense, still it is only an occasional concern which makes such handsome provisions for the "hasbeens." The case of Isaac H. Fream of Monmouth is an illustration. For twenty-years he served the company faithfully and honestly, and when the laws of nature decreed a change, instead of being discharged he is placed on the pension list, and the pay vouchers will continue for the balance of his life. The Enterprise is holding no brief for the Southern Pacific, but its pension system is worthy of emulation.—Independence (Ore.) Enterprise.

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The common man loves his own dunghill better than heaven.—Maurice Maeterlinck.

Must Reduce Bad-Order Cars

How more transportation can be secured from existing railway facilities

"Reduction of bad-order cars to a maximum of 4 per cent of total owned" is the third aim in the more-transportation program proposed by its advisory committee, and approved by the Association of Railway Executives.

The difficulties in the way of the achievement of this purpose are familiar to all railroad men. Nevertheless it can be done, and it is a vitally necessary step in the march of progress toward more transportation from existing facilities.

When Federal control began there were in use by the carriers about 2,260,000 freight cars, of which 5.7 per cent, or 120,780 cars, were reported in bad order.

At the end of Federal control the railroads reported ownership of 2,362,000 cars, of which 6.7 per cent, or 153,727 cars, were in bad order.

Failure to retire cars as rapidly as had been the practice of the railroads, changes in labor methods, and the practice, under Federal control, of freely exchanging cars provided only that running gear and safety appliance were in operating condition and regardless of the condition of the car above the floor—these things were largely responsible for the increased percentage of cars in bad order.

Progressive deterioration under these circumstances was to be expected, and two months after Federal control the percentage of bad-order cars had increased to 7.4 per cent.

The cure of this situation is one of the first and most important problems confronting us.

The cure has been made more difficult and expensive than it would ordinarily be by circumstances already stated, and by the further fact that when the roads were restored to their owners each railroad had only about 22 per cent of its own cars on its own lines. This was less than one-half the percentage of cars on owner lines in January, 1918.

The problem of how to reduce the number of cars in bad order is involved, as just indicated, in the further purpose of the association to secure "more effective efforts to bring about the return of cars to the owner roads."

It Can Be Done.

It is insisted that the number of bad-order cars can be greatly reduced because the records show that this is a possible accomplishment.

In all but two months of 1917 the number of bad-order cars reported was below 6 per cent as compared with about 7 per cent at present.

As a result of efforts undertaken recently, some of the roads reporting to the committee show less than 4 per cent of the cars on line as in bad order, and other companies have already made a substantial reduction.

It is fully realized that owing to circumstances beyond their control, some railroads will not be able to make as good a record in this respect as others.

But the conditions demand that all roads exhaust every possible effort in this direction.

Speeding Up Repairs.

The Commission on Car Service of the American Railway Association reported last month that at some large industrial centers, particularly steel centers, there are a large number of bad-order cars idle, where plants have been obliged to limit their operations owing to car shortage.

It is suggested that, where possible, arrangements be made with these plants for repairing bad-order cars, and thus serve the double purpose of furnishing work for the plant which might otherwise shut down, and at the same time produce equipment in which to forward their shipments.

Where plants are not in a position to produce the necessary plates and forms for car repairs, the required material could be furnished, the plant performing the assembling and repair work.

In the Middle West several roads are sending cars to shops outside of their territory which are in a position to make car repairs.

Under existing circumstances and in view of the fact that every 1 per cent improvement in the bad-order car situation means an addition of about 25,000 cars to the available supply, the advisory committee of the American Railway Association feels that the railroads of the nation would be culpable should they fail to exhaust every possible effort to reduce the percentage of cars in bad order to a maximum of 4 per cent.

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P. F. E. MEN PROMOTED.

Mr. C. M. Secrist, vice-president and general manager of the Pacific Fruit Express, has announced the appointment of Mr. R. C. Dearborn as traffic manager with headquarters at 58 East Washington Street, Chicago. Mr. Dearborn will succeed Mr. E. S. Briggs, who has resigned to accept the chairmanship of the National Perishable Freight Committee. Mr. E. H. Norris has been appointed assistant traffic manager with headquarters at 65 Market Street, San Francisco, Mr. Secrist also announces.

DIVISION ENGINEER LULL WINS ADVANCEMENT.

By R. E. McCORMICK
Superintendant's Office, Portland

Mr. H. M. Lull, who has been division engineer at Portland for the past four years, departed for Houston, Texas, September 13th, to assume his new duties as chief engineer of the Southern Pacific Lines east of El Paso. While everyone on this division regrets his leaving all are very much pleased with his promotion and wish him success in his new position.

Mr. E. E. Mayo, formerly roadmaster for a number of years on the Tillamook branch of the Portland Division, and recently assistant division engineer on the Salt Lake Division, has been appointed to succeed Mr. H. M. Lull as division engineer on the Portland Division. Mr. Mayo is well and favorably known to a great many employees on the Portland Division and will receive the hearty support of all in his new field.

Traveling Time Inspectors Parham, Brown, Cathers and Loucks have completed their check of time on the Portland Division and departed for Ogden. They have been located here for two months and we had grown to look upon them as permanent fixtures.

Portland Division Notes.

Concrete piers have been placed under the Willamette River bridge at Albany. Contract for this work with the Portland Bridge Company was completed in August at a cost of approximately $125,000. New steel fixed spans have been ordered for superstructure.

The program of placing concrete piers under wooden spans on Tillamook Branch is progressing rapidly, and before long this pioneer line will be getting accustomed to permanent structures.

The city ticket office of West Side Electric Lines, which has been in temporary quarters in the Henry Building, will soon have a new home in the Lyric Theatre Building. This entire structure is to be remodeled and fitted up as a first-class ticket office with all modern conveniences. Proposals for the work of remodeling the structure have been requested.

Work is beginning on the extension of various sidings on the main line between Portland and Roseburg, and work of changing out light rails in many of them has been completed.

Mr. O. V. Chesney has been appointed supervisor of bridges and buildings, Portland Division, Southern District. Mr. C. W. Smith, formerly supervisor, has resigned to enter the automobile business.

Mr. H. S. Kellam has been transferred from the Portland Division to the engineering staff of the Salt Lake Division.

Annual bridge inspection is now in progress on the Portland Division.

We miss the smiling countenance of Harry Pollard.

Form 136, valuation reports for period June 30, 1916, to July 31, 1920, has been completed. Work was commenced October 15, 1919, and an additional force of thirty-four engineers was employed. Continuing on this work 1732 reports were made, many of them covering several structures. More than 3000 jobs were handled. The extra force of engineers has now been dispensed with and work is being handled by regular engineering department.

RAILROADS' INCOME IS NOT GUARANTEED BY NEW LAW.

A statement issued by the Southern Pacific Company in San Francisco calls attention to the fact that the Transportation Act, which is sometimes referred to as the Esch-Cummins bill, does not guarantee the railroads an assured income of 6 per cent, or any percentage whatever, begining with September 1.

Prior to that time the majority of the railroads had contracts with the Government guaranteeing them the same compensation they received under Federal control.

Section 422 of the Transportation Act requires the Commission to make rates which will give under honest, efficient and economical management a fair return on the value of the railway property used in the service of the public. This fair return is fixed for the two years beginning March 1, 1920, at 5½ per cent per annum on such aggregate value. The Commission may in its discretion add not exceeding one-half of one per cent to make provision for improvements, betterments, or equipment chargeable to capital account. The Interstate Commerce Commission allowed both percentages.

After March 1, 1922, the rate of interest is to be fixed by the Commission. The Act further recognizes that it is inevitable that some of the carriers will receive a net income in excess of such fair return and provides, as to any carrier which receives such an income in excess of a fair return, that one-half of the excess is to be paid to and loaned by the United States to other carriers for meeting expenditures for capital account, refunding maturing securities originally issued for capital account, or purchasing equipment and facilities, which equipment and facilities are to be purchased by the Government and leased to the carriers.

The other half goes into a fund to be maintained by the carrier under the Commission's supervision for the purpose of paying the dividends or interest on its stocks and bonds or rent for leased roads. When that fund reaches 5 per cent of the value of the carrier's property, the carrier may retain its half of the excess and use it for any lawful purpose.

Nowhere does the act guarantee that the rates fixed under the act will produce any definite rate of return on the investment. It is not even claimed by the Interstate Commerce Commission in its recent order that the increases it makes will have that effect. It is only said in effect that it is hoped that they will.

The Government does not guarantee any of the outstanding bonds or securities of the carriers either as to interest or principal.

It does not undertake to make up any such amounts or any operating deficit from the fund created by the excess above referred to. The carriers to whom that fund may be loaned are entirely within the Commission's discretion.—San Francisco Business.

PASSENGER FARES ABROAD.

The railroads pay out money for labor, materials and supplies of every description, depending for revenue upon the sale of but one thing: Service.

To make possible Service commensurate with the needs of the country and the high standards to which the American public is accustomed, passenger fares in this country were recently raised. Conditions which contribute to the increased cost of railroad operation are world-wide and a matter of general knowledge.

In all fairness, however, to American carriers, the traveler should appreciate that even under the new rates he pays less for passenger transportation in this country than abroad, and the service is in many respects superior.

Below will be found an interesting comparison of the present first-class fares and sleeping car rates between certain foreign cities and cities situated on Southern Pacific Lines at similar distances apart. In these comparisons foreign money has been reduced to Ameriacn equivalents at the normal rate of exchange:

Destination	Distance in Miles	1st Class Rates	Sleeping Car Charges	Total
London to Glasgow	401.50	$24.70	....	$24.70
Los Angeles to Stockton, Cal	400.2	14.52	$1.50	19.02
Liverpool to London	103.50	12.35	....	12.35
Paris to Brussels	198.22	12.40	8.18	20.58
San Francisco to Red Bluff	198.0	7.20	3.00	10.20
Manchester to Aberdeen	363.50	23.89	....	23.89
Paris to Bordeaux	365.37	24.00	12.33	36.33
San Francisco to Santa Barbara	367.0	13.26	3.75	17.01
Manchester to Glasgow	225.25	15.37	....	15.37
Paris to Antwerp	226.18	14.14	....	14.14
San Francisco to Fresno, Cal	205.5	7.44	3.00	10.44
Manchester to Leeds	43.00	2.98	....	2.98
San Francisco to San Jose	46.9	1.74	....	1.74
London to Grieff	467.75	28.96	....	28.96
San Francisco to Los Angeles	471.00	17.04	4.50	21.54
Paris to Belgrade	1237.15	95.32	*****	*****
LosAngeles toPortland (Via S. F.)	1216.00	44.00	12.38	56.38

*****Sleeping car charges not obtainable.

NOTE: (a) These rates have been taken from latest available tariffs published and include all increases up to August 1, 1920 in Great Britian and the Continent. The Pullman rate is for standard lower berth. Neither the war tax in this country nor that which prevails abroad is included.

(b) Second-class travel in England is now practically non-existent. There is, however, a large third class travel at rates slightly lower than our standard fares but offering accomodations which would not be acceptable in this country.

"To save ourselves we must save the railroads."—The Manufacturers Record.

The Evolution of The Telegraph Code

Southern Pacific Superintendent believes another decade will see the passing of the Morse system

By E. L. KING, Superintendent of Telegraph

IT WAS May 23, 1844, when, by practical demonstration, Professor S. F. B. Morse solved for the world the problem of prompt communication through the medium of the Morse telegraph. The first actual telegraph line erected in the United States was between Washington and Baltimore and was put in operation on the above date. However, in England, so it is recorded, Wheatstone actually had his tape system of transmission in operation in 1841 with limitations. Prior thereto numerous scientists were experimenting in the control of electricity from a communication standpoint. Among them was Ampere, the Frenchman, after whom is named the ampere, an electrical unit of measurement, Gauss, Weber, Davey and others besides Wheatstone of England and Morse of the United States.

Necessity for some means of providing for prompt communication, however, was felt centuries before, according to history, and even by the ancients. In an article appearing in a Canadian paper some time ago, Mr. H. Hulatt writes interestingly regarding this. From historical data it is related how Theseus devised the method of colored sails to convey messages from ship to ship of the fleet and incidentally caused the death of his father by failure to handle the signals properly. He sailed into battle with black sails set, the signal of battle and of death, and when the battle was over he failed to replace the black sails with red to indicate victory and his father, Ageus, noting this from afar and believing the signal reported his son as defeated and dead, drowned himself. We find that early Persians carried messages by having them shouted from sentinel to sentinel instead of by courier, a method similar to that used by the ancient Gauls, and by such system the news of the massacre of the Romans by Orleans was sent approximately 150 miles, reaching that distance on the evening of the day of battle.

Early Indians used smoke rings and puffs by day, signal lights and fire arrows by night.

A writer in 1755 wrote his idea of developing a method of communication and proposed that a wire for each letter of the alphabet be laid and charged from an electrical machine, by which they would attract discs marked with the letters at the distant end and the message could thus be spelled out. While not practical it did cause experiments to be made which no doubt aided in the development of the telegraph system.

Professor Morse found that he had another problem and that was how to tie the wire to poles without grounding it. He first bored a hole through the pole at the top through which the wire was run. However, in wet weather the leakage of current was such as to cause serious interruption so he enlarged the holes and placed therein the necks of bottles, through which the wire was run. This being the means of developing the present insulator.

The telegraph was first used for dispatching trains on the Erie Railroad in 1861, by Chas. Minot, the general superintendent. He had great difficulty in convincing the train and enginemen that it was perfectly safe to operate under orders so issued.

System Speeded Up.

No particular development was made with the telegraph until recently beyond working a wire duplex or quad and Thos. A. Edison was largely responsible for that. This lack of development was no doubt due to the fact that what we had, fully answered the requirements of the times. However, with the gradual growth of the country it became apparent that further steps were necessary in order to meet the demand for some better means of communication and there appeared possibilities beyond the single Morse, duplex and quad. To speed up the system the Wheatstone or tape transmitters were brought from England and installed. These printed dots and dashes on tape, which young women deciphered and wrote out with pen and ink, and while transmission was rapid the transcribing process was slow and unsatisfactory, but here again was suggested further development with result the telegraph printers appeared, first in France, with rather unsatisfactory results but it formed the basis for the remarkable American machines which followed later.

Dr. A. G. Bell invented the telephone in 1874 and the first public telephone line was opened in Boston in 1877. The necessity for some such method for prompt communication being largely responsible for the experiments which started at Tutela Heights, Brantford, Ont., and the first line built in that city involved six poles with beer bottles used as insulators.

It is needless to mention here the enormous growth of the telephone system throughout the country or the almost absolute necessity in business or in the home for the facility. The automatic telephone by reason of the shortage of labor is supplanting the manually operated switchboards in many Eastern cities.

Coming of the Phone.

Up to about twelve years ago railroads operated their trains by telegraph. The telephone being considered impracticable due to having so many bells to ring to bring an office in on the line, code ringing being necessary. About 1906 the selector was invented by which the dispatcher could ring any office desired without affecting the bells of other offices, doing away with the code ringing problem and requiring only the turn of a key to select and ring a station. The first selective telephone train-dispatching circuit was installed on the Chicago, Burlington & Quincy R. R., covering a short district. Although for a time there was opposition on the part of some dispatchers, it was soon recognized that the telegraph was both a cumbersome and extremely slow method as compared with the telephone. Approximately 50 per cent more can be accomplished with the telephone than with the telegraph. There are now some ten thousand miles of railroad operated by telephone and additions being rapidly added thereto.

As mentioned above, Wheatstone's method suggested largely the telegraph printers. The French inventon, Boudot, developed the first one, followed by numerous others by American inventors, but all largely adhering to the same principles. Finally the Morkrum printers were pronounced both durable and practicable, although the Western Union had used, with considerable success, the Murray-Barclay and others.

The cost of construction of wires and the enormous growth of business throughout the country placed burdens on both the telegraph and railroad companies that had to be met. Existing facilities could not handle expeditiously the business offered. Shortage of labor, inability to develop help, the competitive aspect of the telephone vs. the telegraph and last but not least the insistent demand for immediate rather than reasonably prompt service again set engineers to work with the idea of meeting the new requirements. The result was the Western Union printer known as the multiplex, produced by Western Union and Western Electric engineers, making possible the tranmission of eight messages simultaneously over one wire, thus increasing the wire capacity 100 per cent and likewise the speed.

Difficulty was experienced, however, over long distances through lack of proper repeating apparatus but this has been overcome by the so-called rotary repeaters created by employees of the Western Union in their Chicago office. Where business did not justify the multiplex type of printer the Green Code Morkrum is used. This is a duplex printer capable of handling over one hundred railroad messages each way per hour, and which is interchangeable with the multiplex if necessary. It is rapidly displacing the Morse method on railroads, as well as on commercial circuits, especially on heavy trunk lines.

The labor problem has further suggested a field to the inventor and we are now offered the "Teletype" printer for intermediate or way station use, the other printers being essentially trunk line equipment. With the Teletype any stenographer or in fact anyone able to use a typewriter at all can transmit and receive messages as speedily as by Morse telegraph. This is a single line machine, being a combination typewriter and transmitter, producing a copy of the message as transmitted by the stenographer from dictation at both the originating point and destination. The use of ordinary telegraph selectors to ring a bell indicates to an office when to cut in on the line for a message, which is printed perfectly on tape. As many of these instruments can be cut in at one time on a wire as can Morse relays. There are several other types of practical printers so choice is not really limited to one or two.

The recent developments of the wireless telegraph and telephone and the so-called phantom circuits, which by tranpositions enable one with four copper wires to obtain three telephone and with the simplex at least two telegraph circuits. The United States army has produced under General Squiers the so-called "Wired Wireless," getting over one circuit eight to ten telephone conversations besides one or two telegraph communications simultaneously without conflict.

These wonderful developments have not only speeded up the commerce of the world but have eliminated distance as a factor in so far as direct and almost instantaneous communication is concerned. The regret is, however, that the speed with which these transitions take place prevents a thorough understanding or appreciation of what they mean or what bearing they may have on the future of people and business. In view of the transformations taking place it is not remarkable that devices are quickly adopted to enable business to keep abreast of the times. On the other hand, conscientious effort by individuals to compete with such devices often prolong delay in their adoption. With what has already been accomplished, together with further experiments being made there seems reasonable justification for the assumption that within ten years Morse telegraphy will be scarcely more than a memory.

America is a country of standardized output and localized industry, so the rate problem is not the complex affair to the individual that it would seem at first thought.

AN OLD WILL

Written Some Two Hundred Years Ago by a Friend of Little Children—Boys and Girls and Lovers and Old Folks.

"IN THE NAME OF GOD, AMEN—I, Charles Lounsbury, being of sound and disposing mind and memory, do make and publish this day my last will and testament, in order, as justly as I may, to distribute my interests in the world among succeeding men.

"AND FIRST, that part of my interests which is known in the law and recognized in the sheep-bound volumes as my property, being inconsiderable and of none account, I make no account of it in this, my will.

"My right to live, it being a life estate, is not at my disposal, but, these things excepted, all else in the world I now proceed to devise and bequeath.

"ITEM—And first, I give to good fathers and mothers, but in trust for their children, nevertheless, all good little words of praise and all pet names, and I charge said parents to use them justly but generously, as the needs of their children shall require.

"ITEM—I leave to children exclusively, but only for the life of their childhood, all and every, the dandelions of the fields and the daisies thereof, with the right to play among them freely, according to the custom of children, warning them at the same times against thistles. And I devise to children the yellow shores of creeks and the golden sands beneath the waters thereof, with the dragon-flies that skim the su face of said waters, and the odors of the willows that dip into said waters, and the white clouds that float high over the giant trees.

"AND I leave to children the long, long days to be merry in, in a thousand ways, and the night and the moon and the train of the milky way to wonder at, but subject, nevertheless, to the rights hereinafter given to lovers; and I give to each child the right to choose a star that shall be his, and I direct that the child's father shall tell him the name of it, in order that the child shall always remember the name of that star after he has learned and forgotten astronomy.

"ITEM—I devise to boys jointly all the useful idle fields and commons where ball may be played, and all the snow-clad hills where one may coast, and all streams and ponds where one may skate, to have and to hold the same for the period of their boyhood.. And all meadows, with the clover blooms and butterflies thereof; and all woods with their appurtenances of squirrels and whirring birds and echoes and strange noises; and all distant places which may be visited, together with the adventures there found, I do give to said boys to be theirs, and I give to said boys each his own place at the fireside at night, with all pictures that may be seen in the burning wood or coal, to enjoy without let or hindrance and without any encumbrance of cares.

"ITEM—To lovers I devise their imaginary world, with whatever they may need, as the stars of the sky, the red, red roses by the wall, the snow of the hawthorne, the sweet strains of music, or aught else they may desire to figure to each other the lastingness and beauty of their love.

"ITEM—To young men jointly, being in a brave, mad crowd, I devise and bequeath all boisterous, inspiring sports of rivalry. I give to them the disdain of weakness and undaunted confidence in their own strength. Though they are rude and rough, I leave to them alone the power of making lasting friendships and possessing companies; and to them exclusively, I give all merry songs, and brave choruses to sing, with smooth voices to troll them forth.

"ITEM—And to those who are no longer children or youths or lovers, I leave Memory, and I leave to them the volumes of the poems of Burns and Shakespeare and of other poets, if there are others, and to those who are no longer children or youths or lovers, I leave, too, the knowledge of what a rare, rare world it is.

"CHARLES LOUNSBURY.

"Witness: Millum Fish."

A copy of this beautiful old will exquisitely framed was recently presented to our club by President Paul Shoup.

DISTINGUISHED SERVICE ORDER

IS YOUR NAME HERE?

Below will be found the names of Southern Pacific employees who in the ordinary course of the day's affairs, by some special act of alertness or enterprise, contributed to the successful operation of the railroad in a manner that warranted recognition from their respective superintendents:

SHASTA DIVISION.

H. D. Brown, Engine Foreman; J. Colvig, Brakeman, and F. J. Porter, Conductor, all of Klamath Falls—For their excellent services in extinguishing fire in baggage car and removing mail from car which would likely have been destroyed had fire gotten beyond control.

R. L. Wardle, Conductor; S. R. Stanley, Engineer; J. H. Moelk, C. O. Johnson and M. J. Love, Brakemen, all of Hornbrook—For valuable services rendered in moving company property to a safe place at time of fire.

Nick Polantis, Section Foreman—For discovering track out of line while off duty and out walking and the interest and prompt action displayed to the extent of sending his wife in one direction to flag trains and himself proceeding in the opposite direction.

Otto Beck, Operator, Mt. Hebron—For the excellent service performed in making repairs to phone and telegraph wires put out of commission by lightning, thereby lessening delay to both trains and telegraph business.

Geo. Walker, Signal Maintainer, Sisson—For the splendid service rendered at time fire was communicated to our telegraph line, he having climbed several poles with a bottle of water, the only means he had, and extinguished fire, preventing a complete failure of lines in vicinity of fire.

W. A. Thaxton, Section Foreman, Sims—For close inspection of passing train, resulting in discovery of brakebeam dragging under car in train, promptly notifying crew and assisting in effecting repairs.

J. G. Wiley, B. and B. Foreman; B. B. Balis, Conductor; W. H. McCann, Engineer; F. F. Early, Brakeman, all of Redding—For the splendid assistance rendered in rerailing car in train, materially reducing delay to that and following trains, such service being given without solicitation.

Carl Hilty, Fireman, Mott—For voluntarily offering his services to take engine which was tied up under the hours of service act to terminal, notwithstanding the fact that he was deadheading to another point account sickness.

A. J. Russell, Agent; C. L. Lewis and V. L. Richardson, Warehousemen, Dorris—For protecting company property from buildings on fire adjacent to same.

O. W. Long, Conductor, Mott—For interest displayed at time of congestion on road, at which time he secured the services of fireman who was deadheading on his train to messenger engine, which was tied up under the hours of service act, to terminal, thereby relieving congestion and lessening delay to traffic.

W. C. Sellman, Engineer—For locating a cracked wheel under tender of engine which was in his charge; very obscure defect in rim of wheel.

C. J. Murcar, Yardman; J. L. Burroughs, Carman; C. W. Hatler, Car Inspector, Gerber—For valuable service rendered in extinguishing fire discovered in a car, such assistance materially reducing damage to car and contents.

SALT LAKE DIVISION.

J. A. Childs, Conductor, and E. J. Coffelt, Brakeman, Montello—For voluntarily offering their services to fire an engine account of the regular fireman being taken sick; such action is highly commendable.

F. S. Porteous, Signal Maintainer, Battle Mountain—For voluntarily rendering assistance in watering a diner at an intermediate station.

LOS ANGELES DIVISION.

J. D. Gavin, Telegrapher, Ventura—For discovering brakebeam down on car being handled in train, taking necessary action to advise train crew, thereby probably preventing accident.

Ed Hunter, Section Foreman, Pope—For discovering bolts gone on rear truck of water car in a passing train, signaling fireman to stop train, and in addition furnishing crew with bolts to repair same, thereby preventing a derailment.

M. D. Cronin, Signal Maintainer, Glamis—For valuable service rendered recently in connection with fire on right-of-way. Through his efforts telegraph circuits were restored more promptly than they would have been had the work devolved entirely upon the linemen.

A. A. Mass, Signal Maintainer, Ogilby—For valuable service rendered recently in connection with fire to company property. Through his efforts telegraph circuits were restored more promptly than had the work rested entirely upon the linemen.

W. E. Carder, Signal Maintainer, and V. R. Fuller, Engine Watchman, both of Niland—For valuable assistance rendered in rebrassing journal on Pullman car in passenger train.

R. C. Ball, Engineer, Moor Park—For repairing engine when same developed trouble. In this case engineer awakened shopmen, secured tools necessary to make repairs to engine and repaired same himself.

F. B. Seib, Telegrapher, Bloomington—For discovering wheel sliding in train passing his station, taking necessary action to stop train and prevent serious damage to equipment.

L. M. Rothenburg, Telegrapher, Burbank Tower—For discovering brakebeam down and dragging on car; taking necessary action to cause trainmen to stop and make repairs, which no doubt prevented damage to other equipment.

D. L. Mattix, Engine Foreman, River Station—For discovering and extinguishing fire on right-of-way, which prevented damage to company property and buildings of private concerns.

J. Quinlan, Conductor, River Station—For using his automobile in going to point where train was to leave and bringing train into terminal without serious delay. Employee in this case neglected to call conductor to deadhead deadhead on had left station.

J. F. Hubbard, Engineer, River Station—For discovering and assisting in extinguishing fire as instructed and as result train he was to on right-of-way, which prevented damage to company proper and buildings of private concerns.

G. R. McKinsey, Engineer, Los Angeles—For assisting in connecting hose to engine and practically extinguishing fire in company building before arrival of city fire department.

L. F. Satterlee, Fireman, and J. Wood, engine watchman, Los Angeles—For discovering fire in company building and assisting in connecting hose to engine and practically extinguishing fire before arrival of city fire department.

SACRAMENTO DIVISION.

C. S. Greene, Gridley, Agent—For meritorious service rendered in discovering dragging brake beam under passing train and stopping train.

G. R. Idle, Gridley, Telegrapher—For meritorious service rendered in discovering dragging brake beam under passing train and stopping train.

R. T. Jackson, Placerville, Engineer—For ingenuity displayed in making emergency repairs to engine, thus enabling him to return to terminal and avoiding expense of sending out a relief engine.

W. E. Schumate, Newcastle-Colfax, Brakeman—For co-operation and efficient service rendered in volunteering to fire engine of heavy freight train to terminal, account injury to fireman, making it impossible for fireman to perform his duty. Action of brakeman on this occasion avoided considerable delay to train and was very much appreciated.

Chas. A. Clark, Sparks, Engineer—For prompt action taken and meritorious service rendered in discovering and extinguishing small fire near snow sheds.

C. E. Morrison, Sparks, Fireman—For prompt action taken and meritorious service rendered in discovering and extinguishing small fire near snow sheds.

Martin Mullen, Roseville, Brakeman—For prompt action taken and meritorious service rendered in discovering and extinguishing small fire near snow sheds.

Fred Troup, Willows, Engineer—For meritorious action taken and interest displayed in having emergency repairs made to his engine (at Willows), paying for expense in making a weld on broken link hanger thereby reducing delay to train and avoiding engine failure.

Luella M. Weyhe, Eder, Staff Operator—For close attention to duty and discovering wheel sliding under car in passing train and taking prompt action to notify conductor and stop train.

F. H. Robinson, Davis, Brakeman—For meritorious interest taken and quick action in discovering and helping to repair leak in oil car, thereby preventing excessive loss of oil and claim against the company.

PORTLAND DIVISION.

C. Fields, Engineer, and H. P. Johnson, Fireman—For prevention of heavy fire damage to equipment and contests by prompt action in moving cars away from a fire, which had started on outside property alongside spur track, then spotting burning cars near water column and extinguishing fire. This is a praiseworthy example of intelligent and quick action in protection of company property.

L. Speery, Clerk—At station for effective work in preventing delay to car of box shooks by effecting required repairs to door and arranging prompt forward movement. Such work is particularly pleasing in view of acute shortage of cars and necessity for quick movement on commodity mentioned.

G. C. Radcliffe, Brakeman—For voluntary assistance given in extinguishing fire on railroad bridge.

Fred Witt and C. J. Rosen, Section Foremen, and E. A. Wood, Brakeman (of another train)—For watchfulness displayed in detection of broken brake hanger and dragging brake beams on cars of passing trains and prompt action in bringing trains to stop that repairs could be made. Possible accidents were avoided by the alertness of these men and their activity in interest of safe train operation is appreciated.

J. D. Stoltz, Engineer, Rock Point, Ore.—For prompt action in extinguishing fire noticed by him while on passing train. In this instance train was stopped and backed up to fire, which was extinguished by hose from engine, thereby preventing spread of fire and resultant damage.

R. F. Miller, Extra Gang Foreman, Rice Hill, Ore.; Grant Knight, Trackwalker, Eugene, Ore., and Robert Wyatt, Cook, Timber, Ore.—For watchfulness displayed in discovering dragging brakebeams and calling same to attention of train crews so that trains were brought to immediate stop and repairs made. Close attention to details on part of employees mentioned no doubt averted a possible accident.

J. W. Mitchell, Log Scaler, Corvallis, Ore.—For voluntary services rendered in making trip with speeder to bring in section foreman who could advise concerning portion of rail curver to be repaired so that it might be quickly accomplished and trackwork expedited.

E. A. Spalinger, Engine Crew Dispatcher, and J. H. Blaylock, Caller, Roseburg—For assistance rendered when firemen called for passenger train failed to show up on time. On this occasion parties mentioned assisted engineer with preparatory work, thereby preventing delay to this important train.

COAST DIVISION.

J. Balentine, Engineer; A. E. McDonald, Fireman; J. A. Morgan, Conductor; W. Shafer and B. O. Bliss, Brakemen, all of Manresa—For efforts exercised in extinguishing a fire on the right-of-way which had been started by sparks from passing locomotive. These men, comprising the train crew, stopped the train and put out the fire.

I. S. Marshall, Brakeman, Soledad—For close attention to duty; by carefully inspecting train discovered a broken arch bar.

James Giovanetti, Yardman, and H. F. Gannon, Brakeman, San Jose—For prompt action in averting a derailment. Yardman noted brakebeam down, called brakeman's attention to it by signals, latter applied air, stopped the train and repairs were made.

WESTERN DIVISION.

Jerry Borges, Jr., Baggageman, Elmira—For discovering brake rigging wedged in switch points of passing track and prompt action taken to have the obstruction removed without delay to traffic.

B. J. Newman, Engine Foreman; G. T. Stine, Engineer; C. W. Deskin, Fireman; F. E. Farosich and R. W. Ehmke, Yardmen, all of Port Costa—For assistance rendered in extinguishing fire on right-of-way, eliminating menace to an adjacent building.

G. G. Henley, Brakeman, Brentwood—For prompt action taken to stop leak under a carload of gasoline, crawling underneath tank car and adjusting the cap.

H. A. Hager, G. L. Humphrys, J. W. Brown, W. Arthur, Conductors; W. O. Gernreich, Engineer; F. Barney and H. Galloway, Firemen; C. E. Parrish, K. H. Earsman, E. Coursinoux, W. E. Mahoney, V. H. Wells, G. A Money, A. D. Yates, L. B. Green, J. E. Chrystal and J. H. Olinder, Brakemen, all of Oleum—For assistance rendered in removing lumber which had been unloaded from car in tunnel, obstructing both main tracks. Their prompt action minimized delay to traffic, and indicates a spirit of co-operation which is highly commendable.

G. R. Ward, Engine Inspector, West Oakland—For locating a badly cracked axle while making inspection of engine. The nature and location of this defect rendered it extremely difficult to observe.

H. E. Masonheimer, Car Inspector, Oleum—For assistance rendered in removing lumber which had been unloaded from car in tunnel, obstructing both main tracks.

RETIRING MASTER MECHANIC GUEST AT RECEPTION.

Mr. Paul Jones, who retired from active service recently as master mechanic of the Southern Pacific shops at Sparks, Nev., was the guest of honor at a reception on August 10th. Members of different railroad crafts on the Salt Lake Division tendered the reception to Mr. Jones. In addition to an elaborate program arranged in his honor several valuable gifts were presented to the veteran. The engineers, firemen and machinists gave Mr. Jones a beautiful watch, chain and charm, and other fellow workers will be remembered by a handsome loving cup.

SAFETY FIRST.

He monkeyed with the buzz saw when
the buzz saw saw'd its best.
It sawed off half his fingers; now he's
feeling with the rest.
He didn't stop "Tin Lizzie" when the
crossing bell ding-donged;
If he'd heeded safety's warning, his
life would have been prolonged.
He leaned his little "tummy" 'cross
a wire hot with juice;
For things that live ones eat and drink
his "tummy" has no use.
The moral of these tragic tales, we'll
now proceed to burst—
The moral is remember—remember
SAFETY FIRST!

—Charles H. Pierson in Edison Current Topics.

A cigar or cigarette butt, thoughtlessly tossed from the car window, may set fire to the company's property or to an adjoining field of grain.

"High Tea" At 65 Market

Eight hundred employees patronize daily tenth floor luncheon facilities

From a modest beginning eight years ago, the General Office tea room in San Francisco has developed into a commodious and well arranged luncheon rendezvous which is patronized daily by eight hundred feminine employees. In addition to its many attractions it has the distinction of being one of the "tallest" eating places in the city, being on the tenth floor of the General Office Building at 65 Market Street. Doors lead to the roof of the building, which affords an open air promenade and an unsurpassed view of beautiful San Francisco Bay.

The tea room itself is equipped with steam tables and all the modern appliances for affording quick service to the patrons, who are served in relays of 200 each. No charge is made for tea, coffee, sugar and milk, while other luncheon requirements are served at cost.

The general arrangement of the tea room is such that patrons can serve themselves with necessary dishes and silverware, as well as food, without special attendants. Several commercial firms in the city have patterned tea and rest rooms after the Southern Pacific plan.

Adjacent to the tea room is the library, containing fifteen hundred volumes of fiction, current periodicals and books and publications on railroad subjects. There is no charge for nonfiction books and periodicals dealing with technical subjects. For the privilege of taking out fiction and magazines a yearly charge of $1. payable in four quarterly installments of 25 cents each, is made. The money is applied to new books. Aside from being of benefit to the employees the library serves as a central reference room where the annual reports of foreign lines are on file and certain technical magazines, such as the Railway Age, Traffic World, Electric Railway Journal, etc., are kept in bound form for the use of all departments.

The rest room, equipped with comfortable couches, permits of any necessary relaxation.

The tea room has proved to be an important factor in promoting harmonious working relations. Occasionally there is a birthday or farewell lunch during the noon hour. At such times the salad, ice cream, cake, candy, pickles and other indispensable party "fixin's," combined with the floral decorations and a certain amount of cheerful hilarity, add a festive tone to the big room and makes a pleasant break in the monotony of the regular noonday meal. Even on Saturday afternoons, when it is theoretically closed, the tea room has been pressed into service in order that some girl, or group of girls, who lack the necessary space and facilities at home, may give a shower or an engagement party in honor of some fellow worker. The tea room also has more serious purposes. During the war it was utilized one day a week by several hundred girls who made bandages and surgical dressings for an hour after their office work was finished. At present Superintendent Miller of the Third Street Agency School is conducting a traffic class there, which is attended by over forty men.

Miss Julia Evans, librarian, who exercises supervision over the libraries of the various railway clubs as well as the building library and tea room, has been in charge of the work since its inception and is deservedly popular.

PRAISE FOR THE SACRAMENTO STORY.

"The Romance of the Sacramento Division," which appeared in the August issue of The Bulletin, proved of great interest not only to Southern Pacific employees but also to many who are in no way connected with railroad operation. The obstacles overcome by the pioneer builders and the vision they had of the future greatness of the Pacific Coast as reviewed by Superintendent Brennan aroused the admiration of many who have commented on the article.

The following is an extract from a letter received by The Bulletin from Mr. W. Ellery, an employee of the Southern Pacific at Sacramento shops:

"'The Romance of the Sacramento Division' by our esteemed superintendent, J. D. Brennan, so ably written, is a souvenir of intrinsic worth. How entrancing the tremendous difficulties described and overcome! Those Mallet engines so vividly portrayed are miraculous."

THE SPIRIT THAT WINS.

Distinction stands back of the lowliest toil,
It's the toiler who brings it to view;
There's no job too tall and no job too small
For the right minded fellow to do;
Whenever a man has made good in the climb,
And stands in the lead of the mob,
There is a fellow, you'll find every time,
Who always took pride in his job.

Watching a crossing or pulling a train,
Whichever your part to fulfill,
There's nothing too small worth doing at all
That's not worth your pride and your will;
Adding a column or spiking a rail,
In shops, or where dynamos throb,
The man who goes upward where other men fail
Is the man who takes pride in his job.

From president down to the lowest in line
The same set of rules will apply;
Make your job small and the world has no call
To notice and passes you by;
Whenever a man has won honor or place
And stands in advance of the mob,
You ever will find as he plugged in the race,
He always took pride in his job!

—E. R., JR.

Seattle's Own Test Of Municipal Ownership

Ex-mayor says that taking over traction lines to eliminate politics had just the opposite effect

Municipal ownership of public utilities is a topic of frequent discussion. The experience of the city of Seattle, Wash., with its traction lines should therefore be of interest. Ex-Mayor Ole Hanson in the Electrical Railway Journal of August 28, looks at municipal ownership from the standpoint of an official who watched its actual operation. His views are herewith reprinted.

The famous ex-mayor of Seattle, Wash., Ole Hanson, recently appeared before the Chicago Association of Commerce and spoke freely of the experience which has been had in Seattle subsequent to the purchase of the local traction lines by the municipalities. The views of Mr. Hanson, based on actual experience, were of particular interest to the citizens of Chicago, for Mayor William Hale Thompson and his political machine are trying by every means possible to bring about an end to the control of the local utilities by the Illinois Public Utilities Commission and to establish municipal ownership and a 5-cent street car fare.

Mr. Hanson's speech follows in part:

In discussing municipal ownership and operation of public utilities I do so only from the light of experience. I have cast theories into the discard. The stern facts, unpleasant as they may be to many, are illuminating, I think, to those who seek the truth.

I will tell you about our street car line. For years we had had the usual fight between the private corporation and the city government. Both were unquestionably to blame, and, because of their equality of wrongdoing, both had red entries in the ledger, when, by co-operation and understanding, both the citizens and the company would have been better off.

The war was on. I believed with others that the company was making money—plenty of it. Were not the cars crowded; didn't I have to stand? Were they not carrying more and more people daily? Yes, but when we "experted" the books we found that it was costing them more to operate every day, and that the more business they had the greater the loss. The government demanded better transportation for the shipyard workers, extensions, new equipment, etc. The company said: "We have just refunded a $12,000,000 bond issue and we paid nine and one-quarter per cent and do not know where we can get any more money."

After due consideration, the city of Seattle offered the company $15,000,000 for the car lines, houses, real estate, etc. The company accepted. Even then the city government did not close the deal, but submitted the proposition in plain words to the voters of Seattle. Every one was for it. It was a war measure and recognized as such. The Chamber of Commerce, the Central Labor Council, the building owners and every organization in Seattle approved the deal. The people voted and the vote stood over 4 to 1. After some months of legal quibbling, the council O. K.'d the deal. On April 1, 1919, we took over the physical operations of the lines.

Things Go Well for a Time.

We had a superintendent of public utilities who was fearless, brave and honest. He inaugurated skip stops, one-man cars, and we had better transportation. We carried more passengers; we raised the pay of the workmen and, by careful, efficient business methods, success seemed certain. Then my health and poverty compelled me to resign. But a splendid man was chosen in my stead. He retained the same superintendent, but election day came nearer and nearer, and, as three of our council had to be re-elected, a change in vote was duly recorded in the council chambers. Improvements which would have saved money were blocked; extensions which should never have been made for years were made at once; everything the lobby of special interest citizens wanted they got.

The superintendent pleaded and cajoled and begged, but the council, which had voted to buy the car lines, were influenced by political considerations and progress was checked.

Then three candidates for mayor filed and, to my surprise, the street car line became the dominant issue. The candidate who promised each section the most in service, extensions, etc., received the most cheers. The candidate who agreed to turn the management of the street cars over to a man without either courage or ability, but who would never fire a man or punish him, received the support of the car men and their friends.

Instead of taking the utilities out of politics they became the football of politics. When the votes were counted the greatest promiser was elected. He fired the competent superintndent and appointd a political friend, and we realized what we were up against.

The first month the city operated the cars, April, 1919, it cost for operation 23 cents to run a car one mile. In the month of April one year thereafter it cost 31 cents to run a street car one mile. The average speed was greatly reduced. We had just been able to get by on a 5-cent fare. The fare today is 10 cents for a single ride —four tickets for a quarter. The present mayor advocated at the beginning of his term the taxing of the citizens to pay for the car line. Verily, municipal ownership meant more than we thought.

In my best judgment, municipal ownership and operation of transportation lines, or any other utility where great numbers of men are employed, will never be really successful unless the great mass of people decide that brains are worth money, and that the men in charge are trained, competent, high-class men who can earn as well as receive as good compensation from the cities as they get in private employment. The spoils system must be abolished and the street car operated for efficiency and service and not for feathering some demagogue's political nest. The people themselves must agree that the car rider must pay for his ride and not the taxpayers, who, often, under some guise or other, are made to carry a part of the load. The employees of the city must be subject to the direction of the city officials and not of any outside body on the face of the earth. The employees must be paid a fair wage, and it should not be greater than the wage paid for similar employment in private life.

However, after due consideration, I am of the opinion that, under proper and just supervision by commissioners that are fair, the private company can furnish transportation at less cost than the average city government. Politics apparently cannot be kept out of the business of our municipalities, and politics is fatal to success.

I believe absolutely that the car rider must pay for his ride and not the taxpayer. I believe the capital invested in public utilities must be allowed to earn a fair and sure return on its investment. It is not true that the company's interest and the city's interest are opposed. Sometimes the corporations and sometimes the politicians have fostered this opposition, but it is wrong fundamentally.

Chicago is but at the beginning of its career as a city. Hate and strife will simply check Chicago's growth, hamper its future and delay its arrival at its sure destination of being the largest city in the world. The city's business is your business. The public utilities intrude upon every hour of your life. Any waste or unnecessary expense is simply loss of your city, to yourselves.

A tree will make a million matches —a match may destroy a million trees. —Department of Agriculture.

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G. P. BEAUMONT - - ACTING EDITOR
R. E. DUNAVON - - ASSOCIATE EDITOR

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IMPROVED TRANSPORTATION.

As a result of the "outlaw" strikes and other conditions the railway managements some weeks ago were confronted with a very difficult problem. Transportation in all parts of the country had been slowed down. No class of shippers could get anywhere near enough cars to ship their freight and the country was confronted with the danger of a coal shortage, especially in the Northwest and in New England.

Under very unfavorable conditions, partly due to the fact that the cars and other facilities had been returned to them by the Government in bad shape, the railway managements set determinedly to work to put railway efficiency back on its pre-war basis, and if they could not move all the business offered, at least move more business than ever had been moved before. It is too early yet to say that they actually already have "gone over the top," but such rapid progress has been made that there is good reason for hoping they will "go over the top" in a way which should be satisfactory to the public.

Throughout the year 1920 up to the present time, in spite of all their difficulties, the railways have moved more freight than they did in the year 1919. Recently they have been moving more freight than they ever moved in the same season in any year. Up to this year the largest amount of freight ever moved in the month of August was in the year 1918. The statistics for the first three weeks of August, 1920, are now available, and they show that in those weeks the railways surpassed by a small margin even the previous high record of August, 1918. The number of loaded cars of freight moved in the first three weeks of August was 2,868,758. This was 251,044 more than in the same weeks of 1919 and just 385 more than in the first three weeks of August, 1918. The margin over August, 1918, is small, but it is on the right side, and, as has already been said, establishes a new high record for that time of the year.

When it became plain that the coal situation in the Northwest was acute it was decided that to prevent a fuel famine in that territory the railways, for some weeks to come at least, must deliver 4000 cars of coal a day at the ports on Lake Erie for trans-shipment by boat to the head of the lakes. The railways for some time now have been delivering more than this amount of coal to the Lake Erie ports. They have also been moving weekly to New England more coal than the amount it was determined they must move there to get next winter's needs.

In order that the grain crops of the West and the coal output of the East could be handled with any approach to satisfaction it was necessary to transfer many box cars from the Eastern railways to the Western railways and many coal cars from the Western railways to the Eastern railways. By strenuous efforts the railways have succeeded in transferring 40,000 box cars from the Eastern to the Western railways and about 30,000 coal cars from the Western to the Eastern railways.

It is not meant to imply by what has been said that the transportation problem confronting the country has been solved. The facts do show, however, that the railways have been rapidly overcoming the effects of the outlaw strikes and have been making great progress in increasing the efficiency of operation. Unfortunately, many of the cars which they have been furnishing to shippers are not in good condition, especially cars for the handling of grain. This is due to the fact that so large a part of the cars were in very bad shape when the Government returned the railways to their owners. The railway managements have been putting forth the greatest efforts ever made to increase the number of cars repaired and reduce the number in bad order, and they are making progress, but it will take a long time to put the equipment in satisfactory shape.

CHARLES SCHWAB SAYS:

I have often said that I have never seen a man, no matter how great or small his position, who could not do better work under the spirit of encouragement than under the spirit of criticism. It is this spirit of encouragement and co-operation which I am sure results from the right sort of organized safety work, and I know of no factor of greater importance to industry today, when there is such a crying need for greater and better production.

COST OF LIVING.

A Philadelphia banker in a recent address is reported to have said that more than $3,000,000,000 in cash is carried about in people's pockets or stowed away as hoardings. "Even a small proportion of this three billion invested in Liberty bonds would bring them back to par."

HOW RAILROAD EMPLOYEES CAN REDUCE LIVING COSTS.

Intelligent citizens generally are greatly disturbed over the continued high cost of living. Railroad employees have strenuously complained about it and have insisted upon a heavy wage increase to offset it so far as they are concerned; many of them are not unmindful of the fact, however, that part of this burden has been passed on to others who are much less able to carry it. Railway employees, if they will only realize it, can do more to force down the cost of living than any other body of men in this country. Primarily costs are dependent upon the relation between supply and demand. The supply of materials is today controlled almost entirely by the limited transportation facilities. Finished materials cannot get to the market; industrial plants are discontinuing or curtailing production because of the lack of raw materials, or the piling up of finished products which cannot be shipped; vast sums of money are tied up because of slow transportation; many men are employed at a heavy expense to follow up and expedite the movement of cars in transit. Railroad facilities cannot be increased rapidly enough to care for the enormous traffic. Railway officers and employees, however, by painstaking and intelligent effort and enthusiastic teamwork, can make much better use of the present facilities. Relief—and about the only relief that can be afforded to the people and industries within the next six months—will be measured almost exactly in the proportion that the human element on the railroads speeds up and makes better use of the present transportation machine. It is within the power of the railroad employees very appreciably to reduce the high cost of living.—Railway Age.

FAST WORK ON L. C. L. SHIPMENTS.

J. D. Brennan, superintendent of the Sacramento Division, calls attention to the quality of service the Southern Pacific is capable of giving to its patrons in the following letter from the agent at Gridley:

"Much has been said and written about service on L. C. L. shipments from San Francisco to valley points. Here is one that has them all beaten. One day recently San Francisco made various waybills covering L. C. L. shipments to Gridley. At 8 o'clock the next morning the car was at our platform and a little after 8:30 o'clock the contents were distributed to our merchants over town. The waybills were reported on our local received abstract and charges collected before noon and money remitted to our treasurer. All done within twenty-four hours after freight was loaded at San Francisco."

Deflation of credits is continuing. When it's completed we'll all be flat.

HOW CONDUCTORS MAY HELP IN SAFETY INSTRUCTION.

Willingness to assist the new men in service and care in calling to their attention safety regulations should be the disposition of veteran conductors, according to Conductor J. W. Cash, a member of the Stockton Division Safety Committee.

Although great improvement has been shown in the methods used to protect the employee, Conductor Cash calls attention to the ever-present human element which demands constant attention.

"The conductor," says Mr. Cash, "has a better opportunity than any one else in helping to start the new men out right by instructing these men in such of their duties as they do not understand, using language that anyone not familiar with railroad slang may have some idea of what it is all about, then be sure that he understands by having him repeat the instructions to you. After you have done this impress on him a few of the following things, which in most cases are covered by existing rules, but on account of the attending dangers it is important to remember at all times:

"1—That he should when coupling air hose at night never leave his lantern set outside while he is between the cars, as other trainmen, seeing his lamp outside, would naturally think it all right to move the cars, in which case he would probably be hurt.

"2—That when walking over train, when train is either being started or stopped, to stand near the middle of the car until the train is well in motion or until stopped, as the case may be, for it is in starting and stopping that most break-in-twos occur.

"3—Impress him with the importance of passing signals clearly and in the same manner in which he receives them.

"4—When switching around stations, etc., make him understand that a stop signal supercedes all other signals if given by anybody around or near cars that are being switched.

"5—Instruct him that before going underneath train or cars for the purpose of attending to brake rigging or for any other purpose, to make sure that engineer knows of his whereabouts.

"6—Should he see anything wrong, such as car doors swinging out from side of train, or anything protruding from side of car, such as lumber, etc., to at once notify the conductor or engineer so that defects may be remedied before passing a station or meeting other trains, as failure to do so might result in some one being injured.

"The new man just entering railroad service is just as important as anyone connected with movement of trains, and that through his diligence and the proper performance of his duties there will at least be one element of danger eliminated from train operation."

Why Not Buy The Railroads

By investing their wage advances, employees could own Nation's roads in five years

"Why do not the railway employees buy the railroads of the United States?" asks the Railway Age in an editorial.

"The propaganda for the Plumb railway plan, which is but part of the Bolshevistic crusade for the destruction of 'capitalism' and the establishment of the political and economic rule of the proletariat, still goes on. If the employees of railways, coal mines and other industries really believe that those who own them derive immense profits from exploiting their employees, why do not the workers buy the industries in which they are employed and get the profits for themselves?

"This question has been given increased pertinency," continues the Railway Age, "by the advances in the wages of railway employees which recently have been made. The wages now being paid to them amount to about $3,600,000,000 a year. The advances in their wages granted in the recent award of the Railroad Labor Board amount to $625,000,000 a year. They easily could and should save this part of their annual incomes. Why do they not do this and adopt, say, a co-operative plan, through their labor organizations or otherwise, for acquiring the ownership of the railroads? They could easily save enough money to do this.

"The total par value of railroad stocks outstanding in the hands of the public on December 31, 1917, as reported by the Interstate Commerce Commission, was $6,583,000,000. The saving by the railway employees of the recent advance in their wages would give them $625,000,000 annually for investment. On this basis, if they bought at par they could, by investing all their savings and their dividends on their savings in railway stocks, become owners of $3,490,000,000, or a substantial majority of all the stock outstanding within five years.

"But they would not have to pay par. The average price at which the stocks of twenty-five large railroad systems were bought and sold in the open market last week was $58.50. Taking this as the average market price at present of the railway stocks outstanding, all the stock could be bought for $3,851,000,000, and one-half of it, or enough to give absolute control, could be bought for $1,926,000,000. On this basis the railway employees, by saving and investing their recent increase in wages in railroad stocks, could acquire ownership of a majority of the stock of all the railroads within three years.

"If the co-operative organization which we have suggested the employees might form, did not wish to invest in the stocks of all the railways simultaneously, it could acquire first one railway and then another. The combined outstanding stocks of the New York Central and the Pennsylvania in the East, and the Atchison, Topeka & Santa Fe and the Union Pacific in the West amount to less than $1,417,000,000. If the employees desired to acquire control first of the ownership and management of only these four great properties they could buy a majority of the stocks of all of them at par with their recent increase in wages in fourteen months.

"The financial power of the employees of the railways would be enormous if they would but save a comparatively small part of their wages and invest them in securities. The same thing is true of the workers in all other lines of industry. Why should they carry on propaganda to get the public to tax itself to buy and turn over to working men the management of the industries in which they are engaged when it would be easily within the power of the working men to acquire both the ownership and management of all industries they are engaged in if they would only practice the thrift in their expenditures upon which has been originally founded the fortune of every man who ever advanced from wage earner to capitalist, or from farm hand to farmer? If the opportunities for profit are so great and working men are so sure that their management of industry would be more efficient than that of the capitalists, they should feel sure that if they saved their money and bought the capitalists out they would have just as good a chance of making large profits in the future as the capitalists would have.

"Never was there a time in the history of the United States when the wages of railway employees and other workers were so large in proportion to the prices of railway and other securities as they are now. Never, therefore, were conditions so favorable for the workers to acquire financial control of the industries in which they work and show how well they could manage them.

"Of one thing we warn the workers now, however. This is, that if they do save their wages and invest as suggested, they will soon find that the difficulty of making profits in business and the ease of incurring losses are much greater than they would ever suspect from reading the literature of the Plumb Plan League and other Bolshevistic organizations."

The Bulletin's Safety Section

NEW SAFETY COMMITTEEMEN ARE APPOINTED.

The following appointments of new safety committeemen were made during the month of August:

E. R. Wedge, secretary, San Joaquin Division, vice A. Von Langen.

A. R. Morsehead, engineer, Salt Lake Division, vice J. Davis.

R. D. Nester, secretary, Salt Lake Division, vice E. Moore.

A. P. Brown, secretary, Tucson Division, vice R. F. Lloyd.

C. E. McCoy, general yardmaster, Los Angeles Division, vice R. G. Prosole.

Wilford Reed, secretary, Sacramento Division, vice W. P. Lowe.

J. R. McDonald, machinist, Los Angeles general shops and stores, vice J. L. Sullivan.

J. Sloate, boilermaker, Los Angeles general shops and stores, vice S. G. Longo.

J. Vogelgesang, blacksmith, Los Angeles general shops and stores, vice S. P. Montgomery.

T. F. Mercier, electrician, Los Angeles general shops and stores, vice T. C. Osterberg.

R. R. Palmer, crane operator, Los Angeles general shops and stores, vice Walter Tweddell.

H. R. Phelps, woodworker, Los Angeles general shops and stores, vice H. L. Treat.

S. J. Keveney, secretary, Coast Division terminal and shop, vice F. H. Smith.

J. E. Stone, assistant master mechanic, Salt Lake Division terminal and shop, vice Paul Jones.

J. J. Cowin, chief dispatcher, Tucson Division, vice LeRoy Foster.

Wm. Scherr, division engineer, Tucson Division, vice T. W. Healey.

* * *

A higher freight rate, bringing greater revenues, would enable the railroads to increase their facilities, and therefore in the longer future it would work actually to reduce the cost of living. The country has had enough of inadequate railroad service, car shortages and freight embargoes, which have held up business all around by delays in deliveries of raw materials, forced increased borrowing in a time of credit scarcity, cut down production, thrown men out of employment, and made goods scarce at points where they are wanted for consumption. Officialdom is awakening to the gravity of this problem, but the belatedness of the awakening has done untold injury.—The Mechanics and Metals National Bank.

FOURTEEN MEETINGS HELD.

Fourteen Safety Committee meetings were held during the month of August, attended by 268 committeemen and visitors, 933 safety suggestions were discussed, 13 talks on accident prevention made by committeemen and reports received to the effect that 4475 employees were talked to individually on safety matters. Details are shown in the following statement:

Date	Committee	Att.	Sug.	Talk by
July 1	Sacto. Gen. Shops and Store	15	333	C. S. Hogan
" 3	San Joaquin Division	20	34	P. Slater
" 14	Coast Div. Ter. & Shop.	17	26	E. R. Anthony
" 16	L.A.Gen. Shops&Store	16	103	C. H. Thompson
" 16	Portland Div.	40	40	E. A. Husby
" 17	S. L. Div. Ter. & Shop.	21	58	H. W. Wistner
" 20	Coast Div.	30	87	A. M. Fish
" 21	Shasta Div.	19	31	S. L. Clayton
" 24	Steamer Div.	10	40	C. F. Heath
" 24	Sacto. Div. Ter. & Shop	8	47	N. A. Mullins
" 24	Salt Lake Div.	13	56	F. C. Smith
" 27	Western Div.	24	29	A. J. Rutherford
" 30	Sacramento Div.	11	33	C. G. Sebring
" 31	Tucson Div.	24	16	Wm. Wilson

I. C. C. ISSUES ACCIDENT DATA.

Southern Pacific Company superintendents recently received copies of a Summary of Accident Investigation Reports issued by the Bureau of Safety, Interstate Commerce Commission. These reports contain data covering railroad accidents that resulted in death to employees, passengers or individuals on railroad property. As the supply is limited care should be exercised in the distribution of these reports to the best advantage.

* * *

IT IS ALWAYS TRAIN TIME.

A railroad train dashes into sight at the rate of fifty miles an hour, a driver loses his head, kills his engine on the track, and instantly innocent souls are dashed into eternity. The same old story with its horrors and sickening sights. Two such accidents occurred recently, one near Franklin, Ind., when seven people lost their lives, the other at our neighboring town of Huntingburg, when ten were killed outright and eight more seriously injured, some of them fatally. And what is the cause? One word, "Carlessness." Practically every automobile that is run into by a train is the result of carelessness. It is much like the fellow who kills his friend with the gun because he didn't know it was loaded. Didn't know it was train time, didn't hear the whistle, or thought the train had already passed. No excuse at all. It is always train time, and it is the duty of every driver, especially when he has passengers, to know absolutely that the way is clear, to know that the lives entrusted into his care are safe. It is his duty to heed the warning at the crossing, "Stop, Look and Listen." If the driver had done this the tragedy at Huntingburg would have been avoided. Will this be a warning? Some will heed it for a time and to some it will always be a burning lesson, while others will go heedlessly along.—Rockport (Ind.) Journal.

SAFETY PLANS DISCOUNTED BY CARELESSNESS.

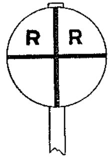
The following statement from C. G. Sebring, agent at Colfax, expresses the Sacramento Division Safety Committee's idea of the essence of safety:

"Carelessness is the enemy of safety. No doubt more accidents, fatal and minor, are due to carelessness than to any other cause, and it is the harder to combat because the human element enters into the battle. All mechanical contrivances can be made safe for the careful man, but no machine or condition can be made safe for the man who is careless and heedless of the safety of himself and co-workers. I believe that a large percentage of our efforts in safety work should be directed against carelessness.

"Some men are careless by nature, others because they do not understand or appreciate the risk they run when unthinkingly and carelessly they perform their duties. We recently had a fatal and distressing accident caused by a brakeman stepping in between cars to raise or adjust a knuckle while car was on a switch. His foot was in some manner caught in the switch rails, his legs mangled and death followed shortly. Our old enemy entered into this accident in two ways, first by the man going in between cars to effect a coupling or uncoupling, and, second, by doing the cutting off of cars directly over a switch. A little thought of safety for himself would have avoided the accident.

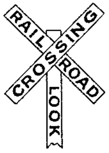
"The battle of Safety against Unsafety is going to be a hard-fought one, and there must be no discouragement on our part, nor any slackening of effort. With all the meetings, all the thousands of suggestions that are considered and made effective, we still have many accidents that should not have occurred. Let us train our sixteen-inch guns of Safety upon the machine gun nest of Carelessness and go 'over the top' to victory of 100 per cent Safety."

Types of Southern Pacific Crossing Signals



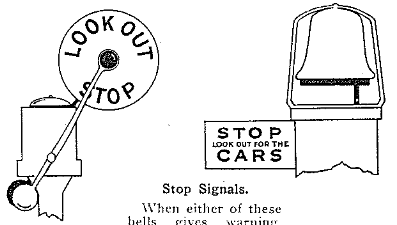
Advance Warning.

Located on highway 300 feet distant from crossing. Driver should immediately slow down and with car under complete control be vigilant as track is approached.



Standard Warning.

Located at crossing. Driver should now be in gear best adapted to physical condition of particular crossing and make certain no train is near before continuing.



Stop Signals.

When either of these bells gives warning, driver should stop and allow train to pass.

FEWER DEATHS FROM AUTO ACCIDENTS AT CROSSINGS.

Notwithstanding a large increase in the number of automobiles and trucks, casualties at grade crossings were considerably reduced on the Southern Pacific during the first six months of this year compared with same period of 1918 and 1919, as shown by the following figures:

	Killed	Injured
First six months 1918	25	99
First six months 1919	17	97
First six months 1920	14	75

This shows a decrease in 1920 compared with 1918 of 11 killed and 24 injured, and compared with 1919 a decrease of 3 killed and 22 injured.

During the first six months of this year 317 automobiles were damaged or destroyed, of which 175 attempted to cross almost immediately in front of approaching trains, while in 70 instances the train was run into by automobile instead of automobile by train, and in 35 instances automobile stalled or died on track immediately in front of train. Twenty crossing gates were run into and broken. Following is the summary:

Ran on track in front of train	175
Ran into side of train	70
Stalled or died on track	35
Skidded into side of train, engine or car	6
Ran into crossing gates	20
Ran into crossing flagman	1
Miscellaneous	10
Total	317

* * *

IMPATIENCE AT RAILROAD CROSSINGS DANGEROUS.

How much is your time worth? This question is exceedingly prominent at present. It is outside the province of the "Travelers Standard" to discuss the compensation paid either to industrial workers or to "captains of industry"; but it surely is not overstepping the bounds of propriety to assert that the most extreme demands of either of these groups fade into insignificance when compared with the valuation that automobile drivers often place upon their time, when facing railroad crossings.

An ordinary passenger train blocks a highway grade crossing for perhaps ten or fifteen seconds, and a freight train obstructs it, of course, for a considerably longer period. The average for all trains, however, is probably in the neighborhood of thirty seconds, and we shall at all events adopt this estimate as the basis of the simple calculation that follows.

From observations made in different parts of the country and corroborated by accident records and by stories of narrow escapes told by locomotive engineers, it has become painfully evident that large numbers of persons consider any such wait as thirty seconds to be insufferably wasteful. They must get to their destinations forthwith—perhaps somebody's life is hanging in the balance. or the exigencies of business are so compelling that a delay of half a minute would destroy the possibility of consummating some vast financial transaction—but more likely there is no sane reason whatsoever.

Automobiles range in value from almost nothing up to twelve or fifteen thousand dollars each, and a horse-drawn vehicle (together with a pair of horses) may be worth one thousand dollars. In addition to this property, which is at stake, there is always at least one occupant in each vehicle, and usually there are several. Human lives and much valuable property are therefore jeopardized every time a driver deliverately takes a chance at a railroad crossing or heedlessly approaches it, instead of submitting to the slight inconvenience involved in coming to a stop and making sure that it is safe to proceed. If all goes well, the occupants of the car find themselves safely over the crossing with thirty seconds saved—and in our judgment this time could be most fittingly devoted to rendering thanks for the preservation of their lives. On the other hand, if the driver has made a miscalculation, or has tried to make the crossing without proper calculation or observation, the results are likely to be extremely serious. Even when the occupants of the car (in the event of an accident) are fortunate enough to escape serious injury, it would be hard for them to reach any other conclusion than that the effort to avoid stopping a few seconds had been a costly failure; and all too often there are no survivors, or else those who escape death are unable to take any intelligent interest in immediately subsequent events.

If we try to measure, on a monetary scale, the wisdom or folly that men show at railroad crossings, by assuming that the delays that are involved in making the necessary stops are justifiable, we are driven to the conclusion that some men value their time at from several hundred to several thousand dollars per minute. That is, they place that valuation on it by their conduct, so long as they think they can safely do so. Only a small number of them would have such an exalted opinion of their worth as to take such chances after proper consideration. It behooves every one of us, then, the next time we are tempted "to see if we can beat the train to the crossing," to count the possible cost, and to consider what is to be done with the time that we shall save—if we are successful. If the game isn't worth the candle, we are exceedingly foolish if we pay it.

* * *

With the increased freight rates, all of these factors in the economic disruption of the nation will be eliminated, but it will be a matter of time. The anemia from which the railroads have been suffering for years cannot be cured in a day—or a month.

CALIFORNIA'S EYE INJURIES.

The Industrial Accident Commission has ascertained the number of eye injuries occurring in industry in California during the five years from 1914 to 1918, inclusive. The total number is 52,348; of these 1030 were permanent injuries and 51,318 temporary injuries. Sad to relate, included in the permanent injuries were 15 cases of total blindness.

Approximately 99 per cent of these 52,348 eye injuries were caused by flying objects. Those remaining were from miscellaneous and unknown causes.

During the year 1918 there were reported to the commission 251 permanent and 14,784 temporary eye injuries. The time loss on the temporary injuries was 26,196 days. The total cost in medical services and compensation benefits on all eye injuries in 1918 was $457,799. The factors of time loss and costs are comparatively unimportant, so far as the purpose of this editorial is concerned. We desire to emphasize the imperative need of preventing such injuries.

Eyes have aptly been termed "the windows of the soul." The thought conveyed by the quotation is that sight pertains to the spiritual as well as to the physical being. Nothing more helpless than total blindness can be imagined when the disaster overtakes a man at his work while he is in the possession of health and strength. And yet a moment's neglect or carelessness or disobedience of a safety order may result in what is perhaps the supreme physical loss next to death.

The National Committee for the Prevention of Blindness states there are 100,000 blind persons in the United States and that more than 50 per cent are needlessly blind. The National Safety Council estimates there are 200,000 industrial eye injuries each year in our land. The International Association for Labor Legislation has issued a list of 56 industrial poisons, of which 36 affect the eyes.

Practically all of California's industrial eye injuries are caused by flying objects. Usually small pieces of steel or emery dust or more or less minute particles do the deadly work. There is only one right and sensible thing to do to prevent such injuries, and it seems that it is difficult to have this thing followed because it is so simple. Wear goggles and wear them all the time when there is the least possibility of any foreign substance coming in contact with the eyes. Many a man has reported to California's Industrial Accident Commisison that he only had to spend one minute grinding at the emery wheel and neglected to put on his goggles because he didn't think anything would happen in such a short period of time. This is a foolish excuse to be given by a sensible man.

Complaint is sometimes made by workers that goggles are heavy, disagreeable to wear and become clouded under some circumstances. These complaints have some measure of justification, but they speedily disappear when confronted with the terrible array of eye injuries quoted herein.

Employers should provide individual goggles, and remove dangerous fumes, vapors and gases. Properly ventilated and lighted workrooms have an important place in saving eyesight. There should be insistence that goggles be worn.

Employees should always wear goggles when there is the least possibility of injury to the eyes. "Mushroomed" tools should not be used. Precautions can easily be taken by means of special coverings to protect the eyes of men working among acids or engaged in sand blasting. Be sure eye injuries are treated quickly by a doctor. Do not permit a fellow employee to serve as first-aid man, because the oculist will almost invariably have to be the last-aid man.

Always remember the familiar and too-true slogan: "It is easier to see out of glass goggles than out of glass eyes."—California Safety News.

PREVENT THE SMALL ACCIDENT.

Slight injuries may develop into big ones. Prevent the small accidents and the larger ones will materially decrease. A few of the minor accidents occurring during the month of July are shown below, all of which could have been prevented by a moment's thought:

Assistant Foreman—Turning rail with bar, allowed bar to slip, striking upper lip.

Helper—Holding chisel bar which machinist was striking. Failed to hold bar firmly and when struck rebounded, striking him over eye.

Yardman—Riding on top of car while doing switching, and lost balance and fell to ground when coupling was made.

Sectionman—Handling ties and allowed one to drop on his foot.

Brakeman—Shoved lock out of switch with finger and in closing switch pulled lever over at same time, bruising hand.

Store Laborer—Closing car door allowed hand to be caught between steel door and steel frame brace, bruising same.

Machinist—Tapping nuts with hammer and struck glancing blow, striking finger.

Helper—While unloading timber from car, allowed timber to fall on foot.

Switchman—Releasing brake on car and allowed brake club to slip, same striking him on chin.

Boilermaker—Grinding stay-bolt on emery and allowed finger to come in contact with emery stone.

That fellow who ran his flivver into a restaurant the other morning might appropriately be called "The Autocrat of the Breakfast Table."

WHY IS IT?

In spite of all that has been said on the subject of wearing goggles, every now and then an accident occurs through failure to obey this rule. It seems almost impossible to believe that men will deliberately run the risk of losing their eyesight when means of protection are furnished by the company, yet there is always someone who imagines he is the original lucky seventh son of a seventh son that was born under the sign of a golden horseshoe and can therefore take all kinds of chances without getting hurt.

Why is it that grown-up men will act like children in these matters disobey instructions after being told repeatedly by the foreman that they must wear goggles on certain jobs? Is it because they do not realize what partial or total blindness would mean? Surely everyone appreciates the blessed gift of sight. It is only necessary to close the eyes for a few minutes in the daytime to bring home the prospect of always living in darkness. A lost eye can never be replaced, and we have yet to see a glass eye which will convey one ray of light to the brain of the owner.

We know that the foremen are not to blame, that they tell every man in their charge to wear goggles on all jobs where the eyes might be injured, and that they make sure each man is supplied with a pair before beginning work of this nature. We also know that when men are scattered throughout the plant on different jobs, the foremen cannot watch everyone all the time. In many cases the responsibility rests with the individual. For this reason the foremen must educate their men to the point where they may be trusted by themselves. This is the only sure way of which we know to avoid eye accident.—The Ingot.

HEMP GROWERS EXPAND ACREAGE.

The cultivation of hemp and ramie and other fibrous plants has been taken up on an extensive scale by land owners in the vicinity of Davis, Cal., and the industry promises to develope into an important commercial factor, according to Agent A. G. Brinley. The invention of a machine for stripping the bark which was perfected and is now being used by Mr. C. G. Schlichten, an expert agriculturist, solves one of the greatest difficulties in connection with the industry. The success attained by Mr. Schlichten has resulted in other land owners planting ramie and hemp for the eastern markets, Mr. Brinley reports.

APPOINTMENT.

H. C. Hallmark, general freight agent, and F. S. McGinnis, general passenger agent at Los Angeles, have announced the appointment of Mr. L. Overman as freight and passenger agent Traffic Department at Long Beach, Cal.

Handling Baggage Has Become A Science

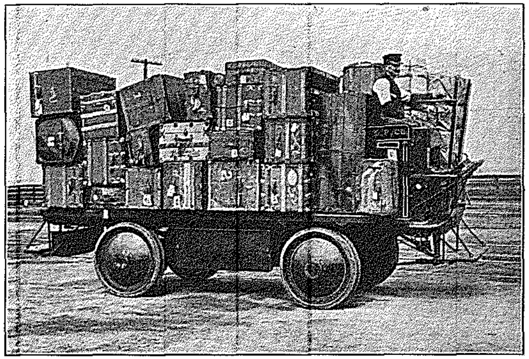
Millions of pieces transported each year by Southern Pacific a problem of magnitude

By E. B. CRANDALL, Assistant General Baggage Agent

IT IS a far cry from the days of the old carpet bag to the modern steel baggage coaches and the extraordinary variety of their contents. With the comforts of twentieth century railroad travel, during which the passenger has at his disposal every convenience, the matter of handling baggage has increased in proportion.

The modern traveler finds a system that works smoothly for the transportation of his luggage from the time he boards a passenger train until his destination is reached. This system did not evolve without friction, nor was it always one that worked to the satisfaction of either the railroad or the patron.

Rules and regulations as to size and weight and even the design of trunks had to be made in order that baggage could be handled with any kind of order. The present methods of handling were forced upon the carriers by the attempts of travelers to take full advantage of baggage privileges.



The present "size and shape" rule for example permits a trunk or other receptacle of 45 inches or under to be carried free. The maximum length accepted is 72 inches and a charge on the basis of five pounds for each inch over the minimum size is made.

With the increase in size and weight permitted by parcel post, increased express shipments and the increased number of pieces of baggage handled, the baggage cars are again badly congested, but not from the same cause as before the "size and shape" rule was placed in effect. If these conditions continue to exist it would not be surprising to see in addition to the maximum weight and size rule either a maximum amount of baggage that a passenger can check or a charge made for each pound carried with no free allowance; it seems inevitable that either one or the other will come, more likely the latter.

The Southern Pacific alone handles 6,000,000 pieces of baggage a year, valued at many millions of dollars. Very little baggage is lost, the average being about one piece out of every 100,000. These losses are caused mostly by checks becoming detached from the baggage, errors in checking and "mismatching," and although every means possible is taken to prevent these errors they have always happened and will probably continue, no matter what safeguards are taken.

The revenue received from excess baggage, excess value, storage and parcel is estimated at about 40 per cent of the expense of handling. It is not many years ago that it was estimated that the cost of each station handling per unit was 3 to 4 cents, but today the cost is about 8 cents, and this does not include the cost of transporting on the trains. The more times a piece is handled the greater the cost. For example, a piece of baggage checked from Los Angeels to San Francisco, Ferry Station, is handled at Los Angeles, on the train to Oakland Pier, at Oakland Pier, on the ferryboat and at San Francisco Ferry. In this case the cost of handling this baggage is about 40 cents.

Up to 1906 the railroads used brass checks for local checking with leather check straps and brass holders in which were placed paper checks for interline checking. It was found that this was a very expensive procedure, and the present paper check with check string was adopted. In the brass check the initial expense was greater than the paper checks. They were reused many times, but the necessary records and handling made them more expensive than the paper checks which are used only once and eventually sold as old paper.

About 1900 some of the extreme Eastern lines adoped what was known as the "Special Delivery" checking so that parents in sending children to colleges and schools could check baggage direct to the school and feel sure that it would be attended to at the destination. The expressman made the delivery and the charges were collected when the baggage was checked and remitted by the railroad to the expressman. When the baggage arrived at its destination it was turned over to a reliable transfer company, who made delivery at the school and looked to the railroad company for compensation. This system gradually extended to hotels and residences.

In 1906 the Southern Pacific adopted the system of issuing delivery checks without collecting the delivery charges, the latter being paid to the delivering transfer company and retained. Now a passenger may check his baggage from San Francisco, for example, to a hotel or residence in New York or he may check his baggage from a hotel or a residence to a similar destination in another city without seeing or attending to his baggage from the time it leaves one room until placed in another at destination.

The transportation machine has been under-nourished for many years, and particularly so for the last ten. In addition, the complications and dislocations in methods of maintenance and operation that developed during the war and Governmental control are serious and can only be adjusted slowly. The return of freight cars to the owning roads and restoring them to pre-war condition is one very large task that is vital to shippers and railroads alike.—Howard Elliott, chairman of the Northern Pacific Railway.

My Half Century of Railroad Service

The dramatic story of a retired mechanic who saw our first railroad grow into the present Pacific System

By J. O. WILDER

At the request of THE BULLETIN, *Mr. J. O. Wilder of Sacramento, recently retired after fifty-four years' continuous service, has written his experiences. The first part of his story is published herewith. Parts two and three will appear in the November and December issues, respectively. As a California pioneer railroader, Mr. Wilder presents a graphic picture of the obstacles faced and overcome by the builders of the old Central Pacific, and of his own connection with the Central Pacific and the Southern Pacific. Loyalty and determination to win against heavy odds,* THE BULLETIN *readers will note, stand out as characteristics of those men who left an indelible impression on the early history of California.*

WHILE I would prefer to leave the service of the company as I entered its employment, unheralded, yet I feel a sense of duty to my co-workers with whom I have been associated for fifty-four years which impells me to relate some of my experiences as a pioneer railroad man. I have noted the leaps and bounds in the progress made from the days of the "Dutch Flat Swindle" to the actual carrying out of the gigantic plans of the "Big Four."

The courage, zeal and determination of the great Central Pacific leaders was an inspiration to all who came in contact with them or realized the magnitude of the task they had set about to accomplish. They were real Americans, and with true Yankee push swept aside all obstacles and pushed up those rugged and almost impregnable mountains.

Having witnessed and marveled at the gigantic undertaking, coupled with the rapidity with which the work was carried forward, I cannot say too much in praise for such leaders. And I am thankful for the small part that I have had in the undertaking.

It is a pleasure to write the names of Leland Stanford, Charles Crocker, Mark Hopkins, S. S. Montague, L. M. Clement, Arthur Brown, superintendent of bridges, and last but not least that wonderful superintendent of construction, William Strowbridge. The latter had but one eye, and because he could see more with that one eye than many men can see with two he was known among the Chinamen as the "One-Eyed Bossey Man."

I will preface my commencement with the Central Pacific by saying that on May 30, 1866, I left my home in San Francisco, a mere youth with my blankets and carpetsack, with canvas pants, high-top boots, and with seven dollars and a half in my pockets, to find myself among strangers, to take my place in the employ of the Central Pacific. I left San Francisco at 4 o'clock in the afternoon by the steamer "Capitol," that being the only route to Sacramento at that time. Reached the Capital City the next morning.

The usual runners for the hotels were there in full force at the landing, which was at the foot of K Street. One runner, whom I learned years after was William Land, for the Western Hotel, grabbed my blankets, bag and carpetsack, threw them into the Western wagon, and I expected to be thrown in myself, as I had seen runners perform in my home city, but to my surprise said Johnny (that is what they called small boys those days) was told the Western was one block up the street, you may walk. After eating breakfast I went to No. 54 K Street, which was the main office of the Central Pacific at that time. Being the first there I sat on the steps with my blankets and carpetbag and awaited the coming of Mr. S. S. Montague, who was chief civil engineer and to whom I had a letter of reference. He arrived with Fred Steiner, his chief draughtsman.

Life in a Railroad Camp.

It was fortunate for me that Mr. Montague was going up to the front that morning. So with my blankets on my back we walked to the depot, which was on Front, J and K Streets. The train consisted of two passenger coaches, which were about the size of maintenance and work train coaches of today. The baggage car resembled that of a caboose of today, minus the observation top, with side doors. This train was drawn by Engine Pacific No. 2, and was known as Train No. 1. The main line at that time turned into I Street, leaving I Street at Fifth, along the levee to Sixth Street, Sixth to B Street levee, crossing the American River east of what was known at that time as Rabeles tannery.

Our first stop was Rocklin. Other stops were Auburn, Illinois Town, New England Mills, Long Ravine Bridge, then the terminal, Gold Run, which was the end of the track. Here Mr. Montague took his span of horses with light wagon and drove up the dusty road to Dutch Flat to what was known as Chinnie Ranch, now called Alta. Here Mr. Montague was met by Mr. L. M. Clement, assistant chief engineer. I was invited to dinner with them. Tin plates and cups were used but the food tasted very good to a hungry boy, even if it was my first experience in a railroad camp eating house. After dinner Mr. Montague and Mr. Clement inspected the roadbed, which was then about completed to this point. The tracklayers were working east of Dutch Flat.

After the inspection they started up the line. I was told to ride Mr. Clement's white mule, and what that mule didn't know was not worth knowing. For instance, he knew that he had something of lightweight and seemed to enjoy it, but not so with yours truly, for I had been in the habit of riding on the back of wagons or a street car. While he trotted along with his nose close up to the light wagon I would have given my last five dollars for a pillow. When we reached a watering trough near Emigrant Gap I found myself standing in the stirrups and was glad to get off his back to unloosen the check rein on the horses. I then led his muleship to get his drink. He would drink and then take a sniff at me, as much as to say, "What have I had on my back?" In fact, he had never seen a boy before.

As we passed along up the line of construction every now and then we would hear some gang foreman sing out "Fire," then the explosion, with rocks flying in all directions. Mr. Montague had some trouble with his horses, but to my surprise and delight his muleship didn't seem to care half so much about those rocks as I did. This was my first experience, but was not to be my last. At Emigrant Gap the wagon road leaves the main line and up through a small valley to the top of a mountain, then commences the down grade to Crystal Lake, where we arrived about sundown, which was the headquarters of Mr. Clement, and also the party headed by Engineer McCloud, to whose party I was assigned for a time, doing cross-section work. I remember while with this party, of 200 kegs of powder put in a cliff, called Crocker's spur, which lifted the whole mass to the Yuba River below.

Blazing the Iron Trail.

Pine trees were but pipestems in this crash, and Crocker's Spur became a thing of the past after that shot was fired. It was also while with this party that I saw for the first time a big Piute Indian. He had his squaw with him and he became quite interested in the leveling instruments. After some persuasion Mr. McCloud got him to place his squaw in front of the instrument, turning the big end towards the Indian and he looked in. It made her appear a mile away. He would look in the level, then at his squaw, then finally gave a big grunt and said "Talkey lie" and went upon his way to the lake. There were, at the time of which I am writing, some Indian hieroglyphics on a large table rack on the east side of the lake close to the wagon road. They were worth while looking at, and I don't know whether the general public know of their existence or not.

The only bad feature about these large bowlders was that there seemed to be a rattlesnake's den thereabouts. One evening a Mr. Scuppem, much to our surprise and disgust, came into the cabin with a rattlesnake which he had caught as it was coming out of its hole. He held it behind the head. It was about eighteen inches long and the rattles were in splendid working order. I have never in my life heard so many unkind remarks made to a man's face. Some of the more angry victims of this peculiar prank wanted to throw him into the lake that his ambition for snake hunting might be cooled.

About this time I was assigned to the locating party east of Crystal Lake. The camp was about half a mile east of the town of Eatonville, on the Donner Lake wagon road. This town is now known as Cisco. With my blankets and carpetbag I boarded a fast freight wagon to make another new start on life's journey.

A Bed on the Boughs.

At the new camp I found one man and from his general makeup took him to be the cook, and here was my chance to make friends with him for we were alone among the big pines. He was a German. He asked me where I was from. I told him from San Francisco, which seemed to strike him just right, as he was from there himself. He gave me a piece of bread baked in a Dutch oven; it tasted good to me for I could eat almost any time. The sun was fast sinking in the west when the party returned to camp. I presented my letter to Mr. Guppey from Mr. Clement. He introduced me to the members of the party by saying, "Boys, this is our new backflagman." The party included C. H. Guppey, engineer and transit man; John Currier, leveler; Arthur Ledley, leveler's rodman; Chauncie Brainard, head chainman; John Harding, back chainman; M. N. Denton, stake agent. The cook they called "Haunse." I never knew his right name; and myself and a little dog called "Tip" comprised the party.

I was assigned my sleeping room in one corner of the tent. Mr. Ledley gave me a small hand axe and went with me to find a small fir tree from which to cut boughs to make a mattress for my bed. The ends of the boughs I stuck into the ground, laid my canvas on them, then my blankets and my carpetsack for a pillow. Supper was served in an old log cabin a few feet from the tent. The table legs four in number, were made from small trees and had been driven into the ground on which rested the boards with benches for seats. The supper that evening consisted of a mulligan stew with good bread, of which I had tasted a few hours before, with dried apple sauce, coffee and brown sugar, eaten from tin plates and cups. Everyone seemed to enjoy the meal. I know I did, for I was always ready to eat.

The cabin was used by Mr. Guppey. He would plan his day's work while others sat about the campfire. I was the center of attraction that evening and was kept busy replying to questions about myself and fighting mosquitoes. The mosquitoes took kindly to me and were very friendly. They were as big as hornets. At bedtime I made a small fire in the tent and smoked them out. They went to the rocks in the Yuba River, wet their bills and returned to sing their sweet songs about the tent. They were tireless workers and laid plans to get in while we were sleeping, which some of them did. It seemed to me that they had me spotted and made straight for me. After a few days and nights one would have thought I had the chickenpox. I hardly knew myself.

Had the Axes to Grind.

The first thing I heard in the mornings was "Haunse" blowing his horn, the signal for us to get up. I was always the first up, and after putting on my canvas pants, leather boots with hob nails and short spikes in the heels, would go to the river, take a wash to return ready to eat. After breakfast the first morning I was shown how to hold the red and white rod with sharp point on one end, and was then sent to turn the grindstone for Mr. Brainard and Mr. Harding to sharpen their axes before going up the line.

My hands were soft and I was soon changing from one to the other and had blisters on both. I had not as yet fully recovered from my ride on Mr. Clement's white mule, but I stayed with the job. We started up the mountain to commence work where they had left off the day before. We went through underbrush, over rocks, and I was not slow in finding out what the spikes were for in my boots, for they saved me more than once from falling. We picked up the line about two miles east of what was known as Butte Canyon.

Mr. Guppey set his transit on the first peg with a tack in it, I the next one back with a stake driven beside it marked C. T. with red chalk, which I had no trouble in finding. We had not gone more than 1000 feet when the line struck a big pine, which meant it must come down, and it was here that Brainard and Harding came in with their axes. After two hours' work the giant fell, which meant another turn at the grindstone the next morning. We did fairly well that day, which brought us up to about opposite Eatonville.

(To be continued)

INTERESTING PICTURES OF J. O. WILDER

At left as veteran employees remember him; at right as he appears at the conclusion of his service. The interesting picture below shows him in a uniform in which as a youth he served in the Civil War.

"Sunset Route" Has Come Back To Its Own

"Sunset Limited" pre-war time schedule restored and "short line" fares made effective via "Sunset Route" October 1st.

By F. E. BATTURS, Assistant Passenger Traffic Manager

THE restoration on October 1, 1920, of the pre-war time schedule and service of "Sunset Limited" between San Francisco, Los Angeles and New Orleans, is an interesting and significant event, affording as it does opportunity to again call attention to Southern Pacific's "Sunset Route" as an avenue of travel that has always had in its favor many natural advantages, and also to announce that on the same date—October 1—passenger fares from San Francisco and Los Angeles via the "Sunset Route" will be reduced to the basis in effect prior to Government control.

Of all the transcontinental rail routes the "Sunset Route" is the line of lowest altitudes, passing through a highly productive territory with many prominent cities and prosperous communities along its lines. With numerous valuable feeders in the important connecting lines leading from a wide surrounding territory it has always enjoyed a liberal patronage, and naturally so, for it is in fact the logical route from the South, the Southwest and a large portion of the Middle West to California.

It is distinctive in being the longest single transcontinental rail route in America, and with its own steamer connection from New York to its eastern terminal at New Orleans forms a coast to coast line, its steamships from the East and its trains to the West running from Sunrise to Sunset!

It is well known to every important business interest and commercial organization throughout a very large area of the United States. It is a popular route of travel, and deservedly so, for its rail traverse regions that in their early associations and history will ever be cherished in the memories of old and young, the younger generations reading of the stirring events which occurred practically within sight of "Sunset Route" car windows. Romance, too, has thrown its glamor "along the way," and the emotions engendered both by its history and its legends—aside from its industrial and agricultural interest, scenic attractiveness and business convenience—are alone sufficiently strong to induce constant travel over the "Sunset Route." But this, now ancient history, I will leave to our advertising men, merely referring those who may be interested to our "Wayside Notes" for a few details.

The history in which I am interested dates back some thirty-seven years. The "Sunset Route" from New Orleans to California was opened thirty-seven years ago, so it is an old route—not old in the sense of being "run down at the heel," but in every sense is a "good old route," well seasoned and maintained at a standard second to no other transcontinental line.

In 1883 it was one of the pioneer lines to California—two years older than the Santa Fe line to Southern California and seventeen years older than its San Francisco line; nineteen years older than the Rock Island-Southern Pacific route through El Paso, twenty-two years older than the Union Pacific-"Salt Lake Route" to Los Angeles and twenty-seven years older than the Western Pacific. So there is no question as to its age and maturity, but there is as to its latter years' experience.

For thirty-five years, during which time the "Sunset Route" was extensively advertised at a very large expenditure, was well and favorably known to a large majority of ticket agents throughout the country and by passengers was a favorite and well patronized line, it was accorded fares to and from the territory it served as low as those of any other transcontinental line.

During Federal control and while the roads were operated by the Government as one system, the fares were advanced via "Sunset Route" materially above those in effect via other transcontinental lines, regardless of the protest of the corporate officers of the Southern Pacific Company.

The Government having returned the roads to private operation the Southern Pacific is now in position to announce that on October 1 the "short line" eastbound fares from California to Chicago, New Orleans and points beyond over the "Sunset Route" will be made effective, and similar adjustments will be made westbound as speedily as possible.

A READJUSTMENT, RATHER THAN AN INCREASE IN TRANSPORTATION COSTS.

From the Philadelphia North American, August 7, 1920.

There is a widespread belief that the raising of rates will put an additional charge of $1,500,000,000 upon the people of the country. This is an error. Indeed, in one aspect there is not an increasing of the burden, but a readjustment of it. Approximately as much is now being poured out to the railroads from the Federal treasury, because the Government guaranteed their earnings at a fixed rate and has had to make good enormous deficits. The public has been paying the sum in taxes, and henceforth will pay it in railroad rates.

Another thing that should be made clear is that the $1,500,000,000 increase, stupendous as it is, provides for the railroads no flooding prosperity or easy profits; on the contrary, it will merely enable them, with efficient management, to meet their costs of operation and improvements and pay 5½ per cent on their investments. Furthermore, they are not responsible for the obligations that were breaking them down; it was the Government, not the railroads, that fixed the limits of their income and the wages they must pay, and it is the Government that has determined the extent of the relief given to them.

JOHN E. NEWMAN SUCCEEDS D. R. SESSIONS.

The appointment of John E. Newman as claims attorney of the Southern Pacific Company, with headquarters at San Francisco, has been announced by William F. Herrin, vice-president and chief counsel. Mr. Newman, who has grown up in the claims department of the Southern Pacific, is 37 years of age, and is one of the most widely known young railroad men on the Pacific Coast. He succeeds David R. Sessions, who has been claims attorney of the Southern Pacific Company since 1897. Mr. Sessions retires as the dean of American railway claim agents. He gave enthusiasm and close study to the problem of employees disabled in service to whom and to whose families mere financial relief could not give complete assistance. Long before the modern phrase "vocational rehabilitation" was originated Mr. Sessions worked with the management in applying its policy of finding suitable location with the company itself for employees disabled in its service. He is proud of the fact that practically 100 per cent of disabled employees so re-employed have made good both financially and by satisfactory service.

Of Special Interest to Agents

Hints On Claim Protection

Two sacked commodities which in one year cost company $72,000

By T. G. FAGAN, Assistant Freight Claim Agent

Claim prevention involves the best service possible to our patrons and the protection of the company's interests, and calls for the whole-hearted and intelligent co-operation of all concerned. In these days of abnormal costs and scarcity of material the subject becomes one of unusual importance. We have in mind particularly, reports which show that during the twelve months ending June 30, 1920, the company paid out nearly $72,000 because of loss and damage to shipments of dried beans and peas, which was 55 per cent of the estimated freight earnings for the same period.

The claim payments on these commodities were selected for the reason that virtually the entire bean and pea tonnage is transported in carload shipments—the loading was done by the shipper, the unloading by the consignee, and the carrier's handling confined to movement of the car. Compared with the handling of other traffic involving greater risk it would seem that claim payments on the commodities mentioned are unusually large.

Surprise may well be expressed that we have any claims at all on commodities put up in sacks and shipped in carload lots, and which are not involved in any train accident. Perhaps some explanation may aid us in stopping this drain on the company's resources.

First, the railroad company has to contend not infrequently with shipments that are delivered to it in a condition that makes for risk in handling. Shipments reach the company's hands with the commodities entrusted to second-hand sacks, sacks that have been rotted or weakened from sunburn, sacks that are far too full, with no allowance for expansion or stress, improperly sewed and fastened, flimsy sacking which will not withstand normal handling, and in short containers that for one reason or another are obviously worn out and unsuitable.

Again we have improper loading of sacked commodities in the car with no protection from contact with door posts and with no doorway stripping. Also at this point it would be well to mention that the carriers themselves sometimes furnish equipment which because of protruding nails, bolts, etc., is unsuitable for sack produce and which are not waterproof, either because of a defective car roof or crevices around the car doors.

Agents should urge shippers for their own protection to meet what are properly their obligations by using a uniform size sack made of twelve-ounce burlap to hold 100 pounds. Sacks that for one reason or another are defective will prove costly in the long run. Stowing in the car should be done by starting the load in each end of car, with the first three sacks on car floor across and one lengthwise, alternating the position of sacks in each layer so that the load is built up with the sacks lapped or cross-tied over those beneath. Sacks loaded in the doorway of the car should be stowed in a pyramid fashion and drawn in from the car door posts. This binds that portion of the load in each end of the car, clearing any projections likely to tear the sacks and preventing the sacks in the doorway from toppling. To safeguard the contents of any sacks that may burst a 1x12-inch board should be placed hard down against the car floor across doorways and fastened to the door posts flush with the inside of car and without projection at the ends. Correct loading is the obvious duty of the shipper.

On the other hand, carriers have the obligation of furnishing siutable equipment, clean cars free from protruding nails, etc., and equipment that will give reasonable protection from moisture.

The problem calls for protective measures that require the earnest consideration of all. It has been suggested that the best way to meet the situation would be to make the rates contingent upon standard packing and loading requirements, with renewed efforts on the part of the carriers to meet their own obligations. Certainly the fact that the two commodities mentioned cost the company in one year nearly $72,000 is sufficient evidence that we cannot be too careful in doing all we can to see to it that wherever possible we do our part toward claim prevention.

PREVENT DAMAGE TO PROPERTY AND SAVE MONEY.

The waste of material through avoidable accidents and the cost to replace damaged railroad property was the subject of an interesting talk recently by William Wilson, superintendent of the Tucson Division Safety Committee.

In urging employees to make every effort to conserve property, Mr. Wilson said:

"All we have got to back our dollars is the resources of our country. If we continue to destroy them or burn them up that is not going to fix it. We will have to be more conservative and produce more and save more. If we get extravagant beyond the resources of our company, our dollar never will be what it should be worth.

"An accident report received from one of our conductors shows that he had a little switching to do and he reached in and took hold of another cut and there was a wooden frame flat car which came next to the engine. He had eleven loads and wanted to shove, so he shoved on the wooden frame flat car and broke it in two. That shove cost $200. It would have been better to have set the flat car out somewhere and have done the switching.

"Reports of accidents go to the officials of the company, and you can imagine what they mean to them when they are sitting around a table trying to figure out some way to get money to buy new locomotives or other equipment. It is money that is going out. That is one reason that makes it so hard to get money, and unless we who have the saving of this money within our hands, every cent of it, actually save it, the railroads of this country are confronted with a serious condition. If you pick up any of the journals or the magazines, almost any of them, you will find an article something like this: 'Why use the railroads, use the automobiles.' We are being attacked from all sides like we never were before. One editor in a California paper not long ago wrote an editorial and said that the increase in freight and passenger rates was not necessary; that we were wasting the money. As I see it we are confronted with a serious condition. We are on trial. We cannot do business except with the public, and we will have to demonstrate to the public that we can run these railroads and run them right. It is not the general manager. He can tell us what he wants done; he has already done it.

CAR SHORTAGE CALLS FOR UNITED EFFORT.

By J. R. HOCKETT
Superintendent's Office, Western Division

Car shortage is quite acute at present on all classes of equipment. We can materially assist if shipments of company material are closely watched and consignees notified by wire to arrange for prompt release. If this is not done, matter should be followed up daily so as to avoid delaying our own business and consequent criticism.

The same also applies to the prompt movement of empty cars after being unloaded. If cars are not picked up promptly by train or switch crews car distributor should be notified. We should not have equipment idle when we are pressing the public for co-operation in prompt releasing of cars.

The period of competitive carloading is now half over and it is important that during the remainder of the time every effort be made to secure heavier loading, in order that we may be able to obtain a considerable increase in tons per car as the result of this contest. The matter of double loading should be followed up closely so that a greater number of the small shipments being offered will be double loaded. Double loading permits the full use of space or carrying capacity of equipment, and with the number of shipments moving each week to the same general locality we should solicit the co-operation of shippers to the end that we may secure a greater number of double loads, thereby avoiding the light loading of equipment and helping to relieve car shortage.

Statistics just compiled show that in the curve between the foot of the incline from Sixteenth Street station and the tangent track leading to Oakland Pier this division has one of the busiest stretches of track on the system. During the interval between 5:45 a. m. and 2 a. m,, approximately twenty hours, 592 train movements are made, averaging over 29 trains per hour for the period. At the peak load travel, from 7 a. m. to 11 a. m. and from 4 p. m. to 7 p. m., the travel increases to a total of 36 trains per hour or one train passing a given point every minute and forty seconds.

The baseball team traveled to Los Angeles on Labor Day and cleaned up the Superintendent's Office team at that point by a score of 16 to 2. The team is open for engagements with other division teams.

The Berkeley Shattuck Avenue passenger station and the Ward Street freight station, formerly handled as one agency, have been separated. Mr. C. O. Dempsey has been put in charge of the passenger station while Mr. E. H. Williams has been appointed freight agent.

L. E. Lehmer has been appointed agent at Antioch.

C. B. Wilson, clerk superintendent's office, is on his vacation.

Raymond Sanden, formerly employed in the master mechanic's office, has accepted a position as timekeeper in the superintendent's office.

Joseph DiSano, formerly roundhouse foreman at Port Costa, has been promoted to foreman at the West Oakland roundhouse.

The following firemen have been promoted to engineers since July 1st: W. C. Scheiding, J. M. Brady, F. C. Bryan, W. D. Lloyd, C. L. Cross, A. W. Payne, W. C. Johnson, H. A. Wisler and D. W. Orth.

Passenger Service Is Improved

Besides restoring the Sunset Limited several new trains are added

Further improvements in the passenger train service will become effective this month, according to an announcement by Mr. Charles S. Fee, passenger traffic manager. In addition to the restoration of the Sunset Limited, which will cut the running time between San Francisco and New Orleans eleven hours eastbound and two hours westbound, several new trains are to be added and the running time of others shortened.

Train No. 110, the Sunset Express, will leave San Francisco for El Paso at 8:15 p. m. instead of 3:30 p. m. as formerly, reducing the running time between the two cities by a little less than five hours.

The "Lark" is restored to its old schedule, which will reduce the running time between San Francisco and Los Angeles by thirty minutes, the hour of departure remaining as at present.

Train No. 17, the Seashore Express, will leave Los Angeles at 4 p. m., instead of 6:15 p. m. as at present, and will arrive in San Francisco at 9:15 the following morning.

Train No. 23, between San Luis Obispo and San Francisco, will be restored to the old schedule, which will permit travelers to arrive at San Francisco at 4:20 p. m. instead of 8:20 p. m. as at present.

Service between Los Angeles and Santa Barbara will be improved by the establishment of a new train, No. 82, leaving Santa Barbara at 7:15 a. m. and arriving at Los Angeles at 10:45 a. m. The same train operating out of Los Angeles as No. 81 departs at 7 p. m. and reaches Santa Barbara at 10:30 p. m.

New trains will be established between Los Angeles and Phoenix, leaving the former city at 4 p. m. and arriving at Phoenix at 8:30 a. m., and will leave Phoenix at 6:30 p. m. and arrive Los Angeles at 7:45 a. m.

Another new train will operate between Tucson and Maricopa with connection for Phoenix, leaving Tucson at 4:15 p. m. and arriving Maricopa at 7:15 p. m., and leave Maricopa at 8:05 p. m. and arrive Tucson at 11:05 p. m. With the establishment of this new service the Apache Trail sleeper will operate tri-weekly on the Sunset Limited between Los Angeles and Globe and El Paso.

SUNSET GULF ROUTE IS ON PRE-WAR BASIS.

Freight Traffic Manager G. W. Luce has announced that the Southern Pacific's Atlantic line of steamers, which form, in conjunction with the Sunset Gulf Route, an important transcontinental service, would henceforth operate on a pre-war service schedule with regular sailings from New York to Galveston every Tuesday, Thursday and Saturday, and from New York to New Orleans on Wednesday and Saturday, with corresponding regular departures in the opposite direction. The Southern Pacific line comprises sixteen steamers with an average capacity of 140 carloads each.

The re-establishment of this service, at the pre-war standards will have a highly beneficial effect on the movement of Pacific Coast grain and other non-perishable products.

NOVEMBER 14 TO 22 IS FOURTH ANNUAL RED CROSS WEEK.

Having designated November 14-22 "Fourth Annual Roll Call Week," the American Red Cross expects all its members to renew their affiliation for the ensuing year by subscribing one dollar apiece. The money is needed to complete war-time obligations and carry on peace-time relief of human distress caused by famine, pestilence, earthquake, fire, flood or other great public calamity.

ANOTHER CAPACITY LOAD.

George Miller, agent at Aurora, Oregon, writes The Bulletin as follows:

In the September issue of The Bulletin I notice an item from Calienta relative to a shipment of "Blowerpipe, weight 55,000 pounds, total freight charges $573 for a 200-mile haul." Aurora to San Francisco way bill 9, September 15, car S. P. 62340, contains 1053 sacks oats, weight 99,465 pounds, freight charges $527.15. Capacity of car, 100,000 pounds, but the shipment loaded filled all available space.

In shipping goods, the shipper should see that the shipment be "packed carefully," "marked correctly," "checked in right," "loaded properly," "way-billed precisely" and the shipment is well on its journey.

Shippers Are Urged To Aid

National Chamber of Commerce asks that speed be used in car movement

An urgent appeal to the manufacturers and business men of the Pacific Coast to join in a national movement to make better use of existing railroad equipment as a means of providing improved transportation service is being made by the Railroad Committee of the Chamber of Commerce of the United States through the San Francisco Chamber of Commerce.

The Railroad Committee points out that the equivalent of more than half a million cars can be added to the car supply by closer co-operation on the part of all interests concerned with transportation.

Freight traffic has increased so rapidly in the United States during the past few years that it has completely outgrown the carrying capacity of the railroads, the committee points out.

As a result, it is now necessary for the roads to devise a practical plan for increasing their transportation service. This can only be done by making extensive additions of new facilities and equipment, including freight cars, locomotives, yard and track terminals or by making greater use of existing facilities and equipment.

The railroads cannot carry out the plan first suggested because under present conditions they are unable to obtain a sufficient amount of new capital; nor would it be possible for them to provide new facilities in time to relieve the present emergency even if the capital were available. They must, therefore, rely on making a maximum use of existing facilities and equipment, with the co-operation of all of the other interests concerned—the shippers of freight, receivers of freight and railroad employees.

"You, as shippers and receivers of freight can take a very important part in this movement," says the committee. "You can add 535,000 freight cars to the available car supply by loading your cars more heavily and loading and unloading them promptly. If the railroads were obliged to buy 535,000 new cars at the present price of about $3,000 per car, it would cost them $1,605,000,000 and would cost the public at least 6 per cent of that amount in the form of increased freight rates.

"The average freight car spends its time as follows: 37 per cent of the time in the hands of the shipper or the receiver; 43 per cent moving from the point of loading or unloading to the terminal where it is put into a train or onto a transfer track; 11 per cent in a train moving from one terminal to another; and 9 per cent laid up for repairs. You, as shippers and receivers of freight, can effect a substantial reduction in the 37 per cent; and the railroads can effect an equally substantial reduction in the 43 per cent.

"You can load and unload your cars promptly if you will. As a rule the railroads allow you 48 hours free time to load your cars and 48 hours to unload them before making any charge for demurrage. If you will use only one-half of this time, thus releasing your cars in one day instead of two, and in addition will order according to your loading capacity, restrict your car order to today's program, avoid the duplication of car orders, and avoid the use of cars for storage purposes, you should be able to reduce the time that the average freight car spends in your hands from 37 per cent to 22 per cent of its total time, and thus add 360,000 cars to the available car supply.

"The average freight car makes 20 round trips each year. By reducing the time needed for each trip 15 per cent, you will enable the car to make 23 round trips each year. This is equivalent to adding 15 per cent of 2,400,000, or 360,000 cars, to the available car supply.

The average capacity of the freight cars of the country is 41.6 tons. Some commodities, including coal, steel, ore, sand and gravel, can be loaded 10 per cent beyond the marked capacity of the car. Others, including the bulk commodities of various kinds, occupy a great deal of space without adding proportionately to the tonnage carried by the railroads. In loading commodities belonging to either of these classes you should disregard the prescribed minimum carload provisions for your commodity and, if possible, load your cars to their maximum capacity.

"In 1919 the average load per loaded car of all commodities on all the railroads of the country as a whole was 27.8 tons—only 67 per cent of capacity. The railroads have now undertaken to attain an average of 30 tons per car. If you will co-operate with them and add an average of 2.2 tons to each carload, you will add nearly 8 per cent of 2,400,000 cars, or 175,000 cars to the available car supply.

"The Association of Railway Executives, representing 95 per cent of the railroad mileage of the country, has unanimously adopted a program for speeding up car movement and increasing car efficiency in which they undertake, with the co-operation of the public, to secure for the country as a whole: An average daily minimum movement of freight cars of not less than 30 miles per day; an average loading of 30 tons per car; reduction of bad order cars to maximum of 4 per cent of total owned; an early and substantial reduction in the number of locomotives now unfit for service; more effective efforts to bring about the return of cars to the owner roads.

"You can help to reduce the present excessive number of bad order cars. The last monthly report submitted by the carriers shows 7.4 per cent bad order cars in the United States as against 5.7 per cent at the beginning of Federal control, an increase of 50,000 cars unfit for use and actually out of service.

"It should ordinarily be possible to keep the number of bad order cars below 4 per cent of the total number owned and, if that condition could be brought about today, it would result in immediately making effective on the railroads as a whole in the United States more than 75,000 cars that are now out of service because unfit to run.

"You can help the railroads to reduce the number of bad order cars by loading your cars carefully so as to avoid the injuries to the car that frequently result from the shifting of freight in transit."

HIS MESSAGE WAS—SERVICE

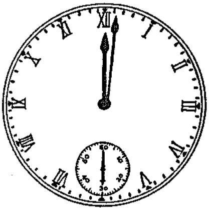
The story is told of a young American soldier who lost his life on one of the bloody battlefields of France. In a pocket of his uniform coat was found a slip of paper, upon which in his own handwriting, were written the words: "I shall enter this fight cheerfully, and will do my utmost as if the whole issue of this conflict rested upon me alone."

There is something more than mere heroism reflected in those inspiring words. They tell of a spirit and a determination which, typical of the vast majority of the boys who went over there, swept the allied armies on to victory with irresistible force. It was such individual devotion to duty on the part of every man of the tens and hundreds of thousands who fought for humanity's cause that doomed autocracy to defeat. That was the American spirit. Each man desired to do his utmost for his country without thought of any greater compensation than the knowledge of having done the best he could. He was eager to get results—to take some active personal part in the task of making the world safe. In other words, with a determination that knew no failure, and with a cheerfulness that overcame every discouragement he was out there to do something for his fellowmen—to give SERVICE.—Chesapeake & Ohio Magazine.

APPOINTMENT.

The position of assistant trainmaster of the Shasta Division has been abolished, according to an announcement of H. A. Culp, assistant superintendent. The appointment of Mr. H. G. McCarthy as trainmaster of the Shasta Division, with headquarters at Ashland, Oregon.

STOP A MOMENT



Do you know

that a train running at full speed
covers a quarter of a mile in 18 seconds?

Last year 73 automobiles
stalled on our tracks;
46 people were killed –
173 injured –
152 machines wrecked –
all at grade crossings where
the view was unobstructed.

If they had stopped a moment
this would not have happened.

SOUTHERN PACIFIC COMPANY